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Ioannes à Doetecum inv. circa 1583

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Names of ships should be underlined to denote *italics*, and not written within inverted commas.

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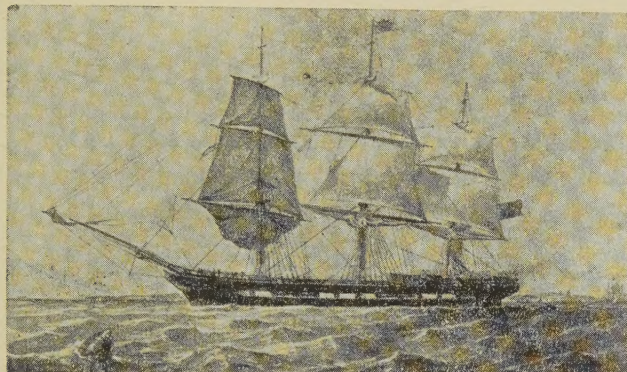
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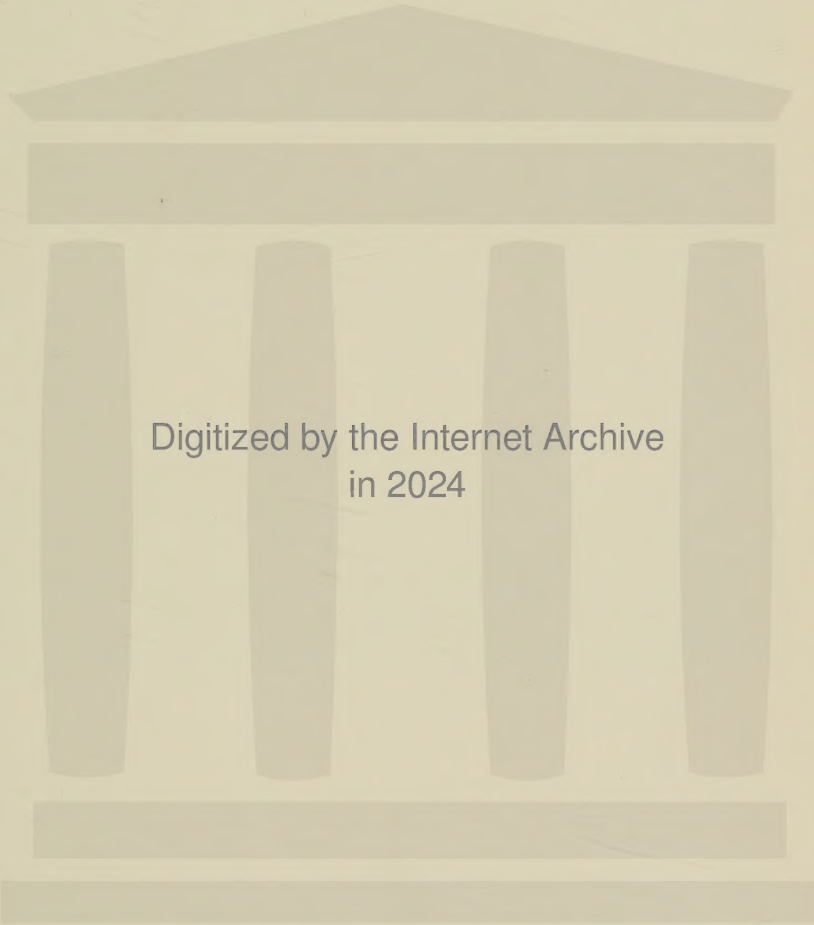
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A Japanese sailing drift-net boat from Kumamoto in Kyushu,
the southernmost island of Japan.

(Frontispiece)

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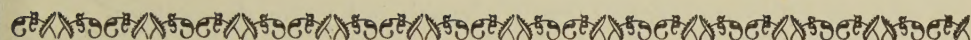
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1959



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A Japanese sailing drift-net boat from Kumamoto in Kyushu, the southernmost island of Japan	<i>Frontispiece</i>
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CORRECTIONS To Vol. 44

- P. 145, 20th line from bottom, *for* Thomas L. Thomes *read* Ansel L. Thomas.
 P. 320, line 10 *for* St Juan Tadicós *read* St Judas Tadicós.

EDITORIAL NOTES

The annual and eventually the consolidated indices of the *Mariner's Mirror* give the date of launching and the flag of all ships referred to in the journal during the year.

To save a good deal of unnecessary research work on the part of the indexer, it would be highly appreciated if contributors (who probably have the information before them) would, when returning proofs, attach a list of the ships named in their contributions, giving the details required.

Another point which would be of the greatest help would be if contributors to Notes and Queries, when referring to subjects known to have been dealt with previously, would always give the volume and page numbers of the former reference.

* * *

Three most interesting but unsigned notes on Wire Rigging, The *Susan Vittery* and Polaccas have been received without covering letter. Will my unknown contributor please communicate with me in due course.

G. R. G. WORCESTER

JAPANESE INSHORE FISHING BOATS

By Basil Greenhill

INTRODUCTION

THE Japanese have abandoned their traditional types of sailing cargo vessels as completely as any nation in northern Europe. In two and a half years recently spent in their country, during which time I had many opportunities to observe coastal shipping, I saw no examples of the types of ship which foreigners usually associate with Japan; those, for instance, which are described on pages 483 to 489 of the 1929 edition of Warington Smyth's *Mast and Sail in Europe and Asia*. I was told by a ship-builder at Shimoda that a small fore-and-aft schooner without an engine was built at his yard thirty years ago, a decade and a half after the last vessels of this kind, the *P. T. Harris*, the *Emily Barratt* and the *Gestiana* were launched in the United Kingdom. Two-masted fore-and-aft schooners with semi-diesel engines were built in the nineteen-thirties, and there are many motor vessels still in commission which were evidently once rigged as schooners or ketches. A small brailing gaff-sail is usually still set from the single surviving mast when the wind is fair. Many of these ships retain as hort bowsprit and some set a single headsail on occasion. But I saw only one ship still rigged as a schooner. She was a small, pretty little vessel, about 70 feet long, her pole masts raked at slightly different angles, and she was under power and had no sails set, in the Inland Sea.

It is the fishing industry which still employs traditional types of boats and ships. The Japanese nation is greatly dependent on this industry, which provides one of the main sources of protein in the diet of the majority of the population. In 1954 some 3 per cent of the people of Japan were directly or indirectly drawing their livelihood from the fisheries. Japanese diesel-driven tuna-fishing ships now sail very widely in the Pacific, the Indian Ocean and even, in recent years, into the Atlantic. The waters around the four islands which comprise Japan itself are fished very intensively by peasant fishermen working their boats off beaches in sheltered coves, or from small shallow harbours. The Japanese authorities are greatly concerned lest the livelihood of these men, and the source of supply of protein which they represent, should be endangered by over-fishing. Boats are strictly licensed, and it is very difficult to get a licence for a new boat unless she

replaces an old one which has gone out of commission. There are rules governing the types of fishing equipment which may be used and seasonal restrictions on fishing which vary from district to district.

From the nautical research point of view the most important form of control imposed in the inshore fishing is the series of regulations which forbid fishing under power in some districts. These regulations, coupled with local economic circumstances in other areas, have had the effect, familiar from the working of similar rules on Chesapeake Bay, and also on the waters between Truro and Falmouth in England, of preserving historically interesting types of boat and fishing methods with little or no modification. One large fleet of sailing boats fishes in Tokyo Bay, within sight of the capital city, working from the creeks of Yokohama and Kawasaki. Other fleets work in the Inland Sea and off Kyushu, the southernmost island of Japan. Rowing boats of traditional pattern operate in many areas.

In the paragraphs which follow I shall describe in some detail two contrasted types of fishing boat, and in the course of doing so try to say something about the construction of Japanese inshore fishing boats generally. These two types are to be found in widely separated areas. One is used in Kyushu and in the Inland Sea and at least as far north as Nagoya and Aichi Prefecture. The other appears to be distributed, with many local variations, at least all down the eastern coast of the main island of Honshu. One is a sailing vessel, the other a rowing boat. They differ greatly in size, in general appearance and in the type of work they do. Yet they have considerable features in common and these features are widely shared by other Japanese fishing boats and have been adapted and applied even to the largest of the inshore motor fishing boats which have developed in many districts in the last fifty years.

THE SEINE-NET BOATS OF KENADA-WAN

On the western side of the Uraga Channel, the strait which leads into Tokyo Bay, is a broad sheltered bight, edged with a gently sloping sandy shore. This is Kenada-Wan, so named after one of the chain of villages which lie behind its beach. It is heavily fished. There are many fixed nets, many lobster pots, and much line fishing is done in season. For much of this work motor boats of various sizes are used. There are many rowing boats, some of which occasionally set lugsails. The long sandy shore of the bay is lined with boats, each with its own hand capstan, by which it is dragged through the surf and up the beach.

I had a week-end cottage at one end of this beach for a year and a half,

and during that time there was plenty of opportunity to observe these boats. Among them is a group of seine-net boats used to lay a long net out in a great arc, each end secured by a cable to the shore. This form of fishing is conducted only in calm weather, and in certain conditions of temperature and tide when the fish run in large numbers into the shallows. The boats therefore spend much of their time on the beach and the return they earn does not justify the installation of motors. The work they perform can perfectly well be done under manual propulsion and the boats are still rowed, as they have been for many generations.

They are hard chined open boats of average length about 30 feet. Their construction follows closely on the form of a somewhat smaller boat which had been slightly adapted to meet the requirements of power propulsion. It begins with a massive keel plank which is the heaviest timber in the whole vessel. Boat-builders pride themselves on cutting these keel planks from a single piece of selected timber. In one of the Kenada-Wan boats I examined, a vessel built in the early months of 1957, the keel plank was 2 inches thick throughout its length, the sides tapering into a sharp edge at the bow, and also tapering in slightly aft, so that the keel plank was perhaps half as wide at the stern as amidships. It was slightly rockered, rising a few inches in the last two-thirds of its run, and rising slightly at the bows. Attached to its underside were two runners, or 'landing slippers', 3 inches thick amidships, tapering to 2 inches at the bow. The foot of the stem was set between the landing slippers, which were faired into it. The stem was secured to the keel plank with a timber knee.

Joined to the keel plank on either side were two planks, each of average width about 2 feet, and 1 inch thick. They were rabbeted and edge-joined to the keel plank by spikes driven diagonally across the seam from the inside of the upper plank. To take the head of the spike half-diamond-shaped slots were cut into the face of the upper plank. These slots were subsequently plugged with wooden dowels, planed down flush with the plank face. These first two strakes were twisted from the vertical, where their ends were fastened with copper spikes to the stem head, to an angle of about 30 degrees, 6 feet aft along the run of the keel. At the transom they were twisted again to an angle of about 45 degrees.

As I shall shortly explain, these boats are practically frameless. I did not have the opportunity to watch the building of a seine-net boat, but in the construction of smaller rowing boats, and of motor boats of the same size and close similarity of design, the twist in these lower planks was obtained by a combination of struts and shores outside and heavy stones and one or two floor timbers inside. Charring was used to soften the planks in the building of these motor boats, but there was no evidence of charring

on the planks of the seine-net boat which is being described. Some building yards have rough steam chests which are supplied with steam from an old oil drum fired with shavings.

The twist in the first plank through 60 degrees in 6 feet, combined with the tapering in of the sides of the keel plank at the bow, left a triangular gap at the bow between the keel plank, the lower edge of the first plank and the foot of the stem. This gap was filled with a shaped plank, about 4 feet long, 1 foot deep at the bow, and tapering to a point at the after end, edge-joined to the plank above it and fastened through the side and end to the sides of the keel plank and the stem with rectangular headed copper spikes.

I have so far treated the first plank as if it had been made from one piece of timber, as it sometimes is. In the particular boat under examination, however, it was itself in two parts, joined edge to edge throughout their length. For the middle third of the boat's length they were joined with spikes driven diagonally downwards through the seam from the outside in shaped slots which were subsequently plugged in the manner already described. At the bow and stern the spikes were driven downwards from the inside of the upper section of plank. The lower section of plank was about 1 foot broad for most of its length, narrowing sharply at the bow. The upper part was 1 foot wide amidships, narrowing to about half that width at the stern and faired away altogether about 2 feet abaft the stem. With this shaping excessive sharpness at the bow, which would otherwise inevitably have followed from the twisting of an unshaped plank in the manner described, was avoided, and the first stage of the boat's construction resulted in a long narrow-pointed spoon shape, cut off at the stern.

The final stage in the boat's planking comprised a board of 1-inch planking about 2 feet wide made up from two planks, joined edge to edge with spikes driven downwards across the seam from the inside, the seam running diagonally across the board. This made-up board was wrapped around the edge of the basic elongated spoon and fastened to it with rectangular headed copper spikes driven through the side of the upper board into the edge of the lower board and into the sides of the stem. No other form of fastening is used at the hard chine made by the junction of the two main boards of the vessel. There is no chine beam. At the bow, where the lower board is twisted almost to the vertical, the seam between the two main boards becomes almost a clench join, with the upper board overlapping the lower and both boards heavily bevelled.

The planking is finished off with a heavy bulwark timber, $2\frac{1}{2}$ inches thick at the top, fastened with spikes driven down through the top into the lower planking. This bulwark timber is shaped into a point at the bow.

The framing of the boat was very simple. She had one floor timber 3 feet 6 inches abaft the forefoot. This was 3 inches square and fastened with threaded bolts and nuts. Adjacent to it, but not touching it, was a futtock timber on each side, beginning about 3 inches above the keel plank and running up to the bulwark timber. These futtock timbers were each fastened in four places only, with two threaded bolts with nuts through the upper plank and two through the lower. About 5 feet aft of this frame was another floor timber fastened with iron spikes. Eight feet further aft was another floor timber and three feet aft again another. These last two floor timbers were cut from boards and were solid across the boat to the height of the chine. The boat had no more futtock timbers, but she had a light bulkhead made of 1-inch planking joined edge to edge immediately abaft the second crossbeam. This bulkhead formed the forward end of the 'netroom'.

There were five massive crossbeams with their ends let right through the upper plank just below the bulwark level and secured, not with fastenings, but with wooden wedges driven between the beam and the planking. These beams divided the boat effectively into what might be called 'rooms'. Between the second and third aft was the 'netroom', with no deck. A light stringer ran along the top planks at each side about 2 feet below the bulwark level forward of this 'room'. Laid athwartships, their ends on these stringers, were light planks, each about 6 inches wide, making a temporary deck. They were supported amidships by a 3-inch square timber which ran from the stem to a vertical timber between the keel plank and the second crossbeam. The same decking arrangement was repeated abaft the 'netroom'.

The structure of the stern is illustrated in Figs 1 and 2. The transom, sloping at about 15 degrees to the vertical, was set 18 inches inside the plank ends. The keel plank ended at the transom, so that abaft it the side planks formed an open box without a bottom. The actual stern of the boat comprised the ends of the side planks rounded off with a strong sawn frame on each side. The rudder, deep and narrow, was dropped through a slot cut in a heavy cylinder of timber fitted across the boat at the top of the transom. The rudder was hauled up for beaching with a block and tackle, rigged from a structure like a boom gallows above the transom. Some of these beach boats have no rudder, but are steered with a 'roh' alone.

The boat was propelled by four 'roh', the Japanese version of the 'bent yuloh'. These 'roh' were worked on hardwood pins let into the softer timber of additional crossbeams laid across the top of the bulwarks. There were four working beams, one in the bow with the 'roh' to starboard, one

above the transom with the 'roh' to port, and one above the aftermost crossbeam with the 'roh' to starboard. The fourth 'roh' worked on a pin at the end of a small sloping half-beam across the foredeck. This half-beam

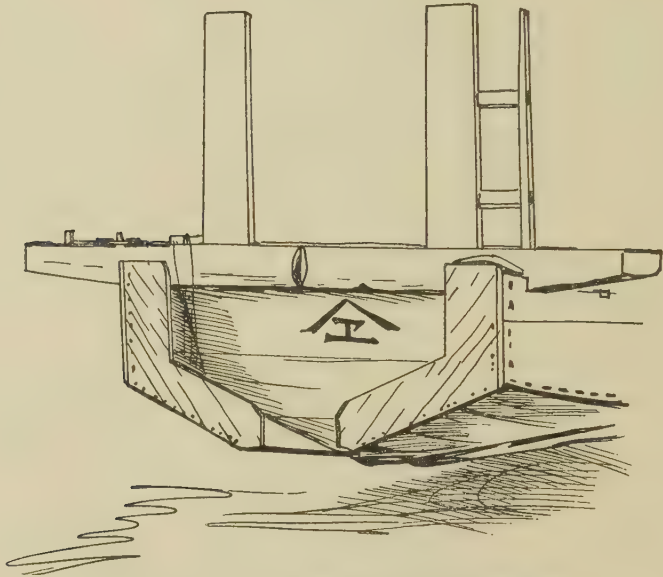


Fig. 1. Stern of a Kenada-Wan seine-net boat.

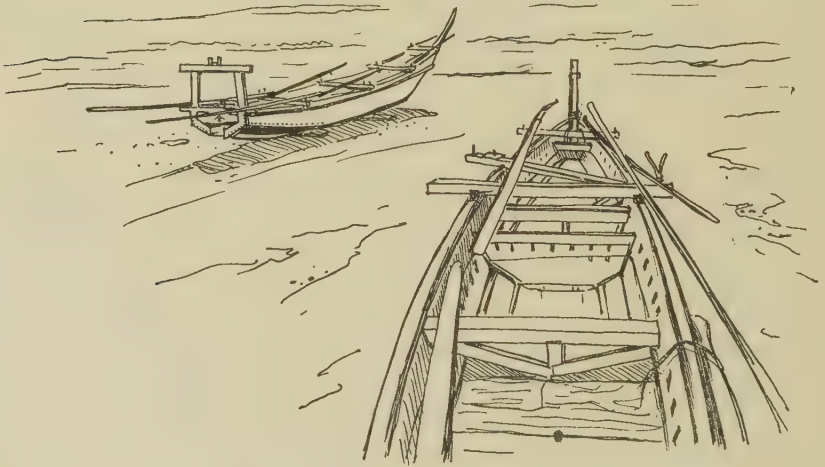


Fig. 2. Seine-net boats beached.

is shown very clearly in Fig. 2. It is the custom on the beaches of Kenada-Wan for the crews to sing as they vigorously propel these boats in a broad arc around the bay, shedding the great seine net as they do so.

The boat was unpainted. This does not indicate indifference or poverty. The Japanese rarely paint a wooden structure and the beauty of the local timbers in their natural state is emphasized, with justification. The stem, carried 3 feet above the bulwarks in a graceful curve, was coloured black, and decorated with bands of rope made of interwoven black and purple cords. The big rectangular heads of the metal fastenings, each in its chiselled slot, were painted green, and the ends of the deckbeams were wrapped in sheet copper, also painted green. The stem head was covered with sheet copper, and the forefoot and the plank ends above it were also decorated with strips of green-painted copper. The character for the owner's name appeared on both bows and on the transom.

The boat was beautifully built and appeared to have been constructed of entirely new materials. The 'roh' were obviously from an earlier boat, as were also the stocked anchor and the iron shod pointed beaching pole with which she was equipped. To protect the chine amidships she had a light batten tacked around. Her principal dimensions were, length from inside of stem head to end of planking at stern, 30 feet, depth amidships from top of bulwark to bottom of keel plank 3 feet 4 inches, beam at forward end of netroom 6 feet 4 inches.

I have described this seine-net boat at some length because it seems likely that she represents a particularly developed and graceful form of a basic Japanese boat design. Boats of this general type, similar even in the decorations, are depicted in many prints of all periods, including Hokusai's famous 'The Wave'. The Tokyo Bay sailing fleet is made up of larger boats whose basic construction and form of hull is the same, though some of them are large enough to be rigged with three masts, from each of which is set a battened Chinese lugsail. The same characteristics of construction are to be found in numerous boats which are smaller and simpler, and in great 45-foot beach boats, built to be beached through the great Pacific rollers on the shores north of Tokyo Bay, which are simply scaled-up versions of the seine-net boats. I have met variations on the pattern in many different parts of south-eastern Honshu. Photographic evidence confirms that it is spread widely elsewhere, and the Fisheries Agency has stated that the basic type is in use 'throughout Japan'. They are graceful and seaworthy boats. I have seen them at sea apparently safe (but shockingly uncomfortable) in conditions as bad as any boat of their size should ever be asked to face.

The ordinary modern Japanese inshore motor fishing boat, at least in eastern Honshu, consists of a basic hull constructed in exactly the fashion described above, but with flatter floors and fuller bow sections, to which two additional stories of planking have been added. The same construction,

built up yet further, is used in large motor vessels engaged in offshore fishing from Choshi, north of Tokyo.

These motor boats are framed in various ways and the order of construction varies with the district and the ideas of the builder. A common order of building is to lay the keel plank, obtaining the requisite curve with shores and heavy boulders, erect the stem and transom and then add the first series of planks, edge-joined to the keel plank and to each other, softened where necessary with fire, and forced into the shape of the basic elongated spoon with shores, struts, guys, more boulders and an occasional floor timber. Then the remaining floor timbers are cut to fit the planking. There may be as many as fifteen or sixteen of these in a well-built 35-foot motor boat. Next, the shaped side-planking is made up from boards edge-joined to one another. Then it is wrapped around the chine and joined through to the lower planking and to the ends of the floor timbers. Futtock timbers are cut to fit before deckbeams and superstructure are added.

THE SAILING FISHING BOATS OF KUMAMOTO

At Matsuo at the mouth of the Kumamoto River in the north-western part of Kyushu, the most southerly island of Japan, I came across a fleet of twenty-one large sailing fishing boats lying side by side on the mud floor of a tidal harbour. According to the chief of the fisheries co-operative of the district the village's total fleet was twenty-six vessels, and there were, he said, another fifty boats of the same type based on the next village. The use of motors in the inshore fishing of the area had been forbidden by a regulation introduced some years before.

The boats were all of the type illustrated in the frontispiece. The fishermen themselves said that they had been built in Yamaguchi Prefecture in the southern part of Honshu. I was introduced to the local boatbuilder, Mr Suehiro Yonemura, who, while mainly engaged in the repair and maintenance of the local fleets, said that he could build boats of similar type as and when they were required. In response to my questions about details of construction he made the drawing which appears as Fig. 3, which shows midships sections with and without the additional shelter decks with which some vessels are fitted for part of their length.

As this drawing shows, these vessels, although radically different in proportions, are generally similar in construction and design to the seine-net boats already described. They are hard chine boats built up from a keel plank, and their planks are edge-joined. Mr Yonemura, supported by members of the co-operative, said that all planking, both below and above the chine, was completed before the floors and futtocks were fitted.

A typical boat was, I was told, 15 metres long, $2\frac{1}{2}$ metres in maximum beam, and $1\frac{1}{2}$ metres deep. Despite the absence of any kind of keel extension the fishermen claimed that their boats were tolerable performers to

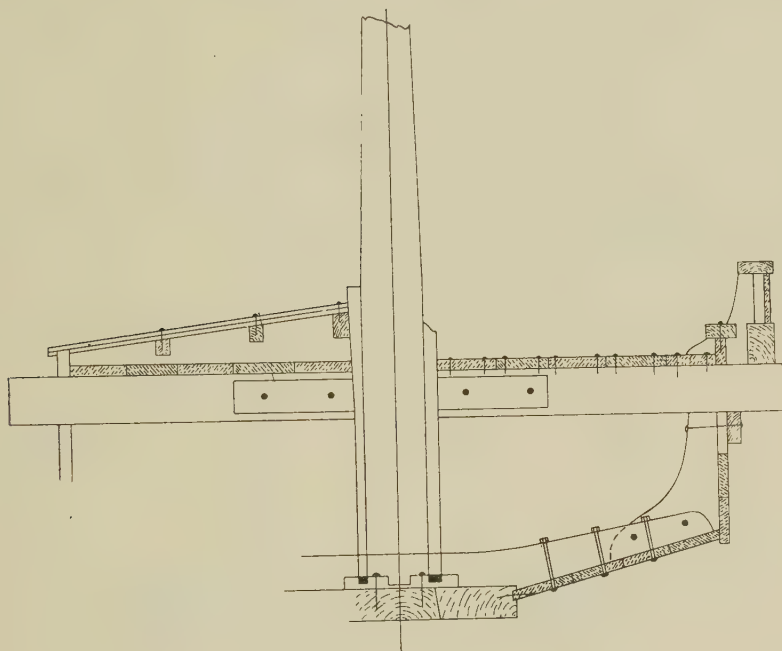


Fig. 3. Midships sections of a sailing drift-net boat from Kyushu.

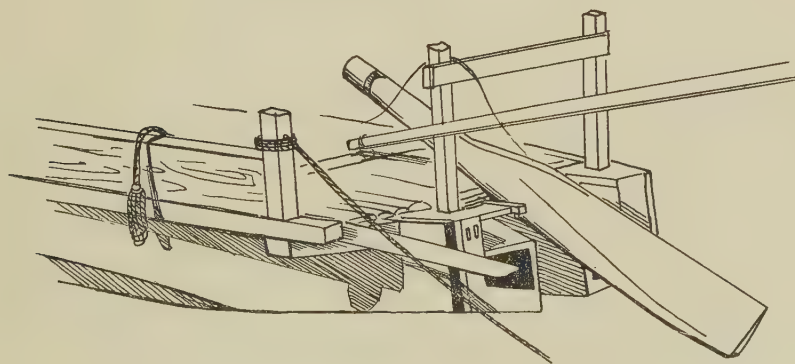


Fig. 4. Stern of a sailing drift-net boat from Kyushu.

windward in the conditions they normally met with. They said that, taken all round and allowing for the simplicity and economy of their construction, they were most satisfactory boats for the local inshore fishery. Although the same number of sections of timber were used in the construction of the

bow as in the seine-net boats the bow sections were far flatter and the floors flatter throughout the vessel's length.

Each boat was fitted with a shaped false stem, highly decorated in white, red and black. The keel plank and lower planking was painted black, otherwise the boats were left unpainted except for timbering at the open stern (Fig. 4). The boats were rigged with two battened lugsails of considerable area. They were fitted with very long bowsprits and very long outriggers over the stern. One of the fishermen prepared a rough diagram of a boat with all light-weather canvas set, and from this diagram Mr Minoru Tanabe, who is very widely known as a marine artist in the western style in Japan, has prepared the drawing which appears as Fig. 5, in which rigging is represented diagrammatically.

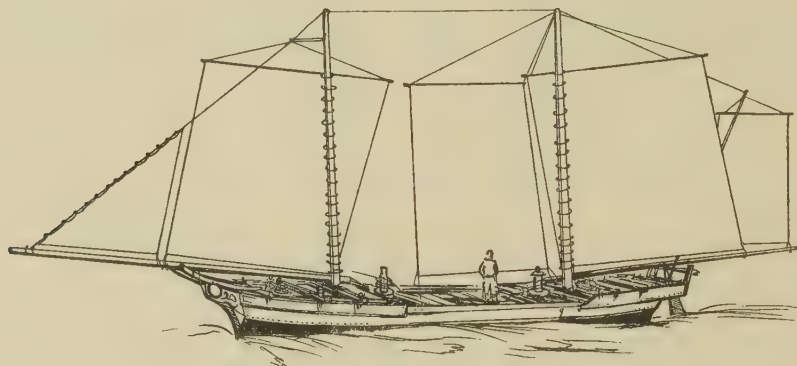


Fig. 5. Sailing drift-net boat from Kyushu.

To the fishermen this design of boat was associated with Aichi Prefecture in the neighbourhood of the city of Nagoya, about 200 miles west of Tokyo. I have seen boats of very similar general appearance working under sail off the coasts of Aichi, and they are common in the Inland Sea. The *Kompira* in which Mr Willard Price made the voyage through that sea which he described in his book *Journey by Junk* was, from his account and photographs, very similar to the boats of Matsuo, though smaller and proportionately less heavily rigged. The Fisheries Agency possesses sketches of a beam trawl boat of very similar appearance, but only 20 feet long and 4 feet in the beam.

CONCLUSION

The two types of Japanese inshore fishing boat I have described are so similar in basic construction that they can be described as wide variations of the same design. This general design, incorporating keel plank, hard

chine, edge-joined planking, inserted frames, or no frames at all, was described to me by a number of builders as 'The Japanese style' in contrast with the round-bilged boat built on pre-erected frames, which was known to them as 'the foreign style'. The evidence of prints and pictures suggests that vessels built in the Japanese style were used for passenger- and cargo-carrying in the past.

ACKNOWLEDGEMENT

The foregoing article was written from notes made in Japan between May 1955 and October 1957. The author is very grateful to Minoru Tanabe and Norio Fujinami for their help, to Clifford Hill and to Leonard Pickles for their help as interpreters, and to Howard I. Chapelle, of the Smithsonian Institute in Washington, for his kindness in reading and checking the manuscript. The drawings are by Minoru Tanabe.

GALLEON INTO SHIP OF THE LINE. II

*By Rear-Admiral A. H. Taylor, C.B.,
O.B.E., D.L., J.P.*

II

THE next step in the evolution of the ship of the line, ninety-six years after the introduction of Wynter's 'proportion', was taken by Edward Mountagu, first Earl of Sandwich.

In 1656, when Blake, in failing health, asked for a colleague, Cromwell sent him Mountagu: born and bred in Cromwell's own country, of a family distinguished in law and administration, a student of mathematics and astronomy, intended for the law, but brought by loyalty to Cromwell into the New Model Army, in which he served with distinction enough to be made a Major-General at 21.¹ What he knew of fighting at sea and of the management of a fleet he learnt from Blake. He was evidently a good pupil; for we find him replying to a captain who was questioning his orders, almost in the words attributed to Blake on a similar occasion: 'The sole enemy in view was the Spaniard; to infest him was our work; but in what place concerned not him, who was to obey the commands, and not to weigh designs, whereof he was not properly cognizable.'²

On 1 February 1665 Sandwich, being in command of the guard in the Narrow Seas, issued Instructions to his squadron of eighteen sail, six of which were fifth- and sixth-rates, directing the latter 'to lie on that broadside which is away from the enemy, looking out well when any signal is made for them'; and adds a signal upon which ships were 'to fall into this posture, every ship in the place and order here assigned'.³ This was the second step in the policy initiated by Blake in 1652, for it put those six of his eighteen ships which were not fit to lie in a line of battle, outside it. And at the Council held on 31 May, Sandwich proposed to the Duke that the twenty-four merchant-ships in the fleet should be taken out of the Order of Battle and put in a squadron of their own in the rear of the fleet. Though Sir John Lawson and others had seemed to like the proposal, 'nobody was forward to speak', and the Council agreed to accept the Order of Battle as it stood.⁴

¹ F. R. Harris, *The Life of Edward Mountagu*, pp. 14 ff.

² J. R. Powell, *The Letters of Robert Blake*, p. 393. (N.R.S. Vol. LXXVI.)

³ Corbett, *Fighting Instructions*, p. 108. (N.R.S. Vol. XXIX.)

⁴ R. C. Anderson, *Journal of the Earl of Sandwich*, p. 222. (N.R.S. Vol. LXIV.)

The fleets which fought at the Battle of Lowestoft on 3 June 1665 were similar in character and number to those of 1653, though with more good men-of-war and fewer hired merchant-ships. The Dutch fleet of 109 sail comprised twenty-one ships of 60 guns or more, including at least six of the new type, fifty-eight of 40–50 guns, and thirty smaller. The English fleet of 113 sail comprised fourteen ships of sixty guns or more, fourteen 56-gun frigates now classed as third-rates, 32 fourth-rates and 24 merchant ships, of about 40 guns, twenty-five smaller ships and four fireships. Its strength lay in its fourteen three-deckers, eight of which were old great-ships rebuilt. Nine of them served as flagships: the Duke of York flew his Standard in the *Royal Charles*, with Penn as Great Captain, Prince Rupert the Union in the *Royal James*, the Earl of Sandwich the Blue in the *Prince*, late *Resolution*.¹

The Order of Battle had been drawn up with great care. Vice-Admiral White would lead on one tack, Vice-Admiral Blue on the other. The fifth- and sixth-rate ships were placed immediately ahead and astern of the nine flag officers, and the third- and fourth-rates disposed evenly throughout the line.²

The Fighting Instructions issued on 10 April 1665 were virtually the same as those of 1654, except for the introduction into Arts. 2 and 3 of the Order of Battle.³ The new articles look simpler than the old, but evidently more precise directions were sought and fifteen new articles were issued, the first of which, Art. 17 of the complete set, contained the words 'as much as may be to preserve the order of battle'. These words tended to divert attention from the quarry to the next ahead, but for the time tradition and common sense prevailed.

Hoste describes the Battle of Lowestoft as it would have been had it been fought according to his ideas.⁴ The reality was otherwise.

At daylight on 3 June⁵ the English Fleet, steering about S.S.E. with the wind at S.W., sighted the Dutch Fleet on the lee bow. Obdam came round on to a westerly course and stood to close. The English fleet was in the order White, Red, Blue, with Myngs in the *Triumph* leading. But, says Sandwich, 'many of our ships luffed up to windward, that we were in ranks 3, 4 or 5 broad, and divers out of reach of the enemy'. In the

1 Granville Penn, Jordan's Journal, *Memorials of Sir William Penn*, Vol. II, p. 317.

2 R. C. Anderson, *Journal of the Earl of Sandwich*, p. 195. Vol. II, p. 317.

3 Corbett, *Fighting Instructions*, p. 122.

4 Hoste, *Naval Evolutions*, First Part, Ch. v.

5 English Accounts: R. C. Anderson, *Journal of the Earl of Sandwich*, pp. 224 ff. R. C. Anderson, *Journal of Sir Thomas Allin*, Vol. I, p. 234. (N.R.S. Vol. LXXIX.) Granville Penn, Vol. II, p. 503. Dutch Accounts: *Description Exacte des Guerres d'Angleterre*, 1668, pp. 54–60. *Memoires*, Comte de Guiche, 1744, pp. 65 ff.

Dutch Fleet the squadron commanders seem to have made no attempt to maintain their proper stations, but 'vied with one another for the honour of reaching the enemy first'. Thus the fleets passed on opposite courses, 'not at a near distance, and not much hurt was done'. This first pass took from 4 till 6 a.m. The Duke of York had intended to tack his fleet together and engage the enemy on the westerly course which would draw him away from his ports, but the man sent aloft to make the signal took so long about it that the Duke had to stop it and wait his turn. For Prince Rupert had already tacked after the enemy, and the fleet was following in succession. Then Obdam tacked to the southward and the Duke, suspecting that he would try to gain the wind, '(though himself was in the middle of the fleet)', says Sandwich, 'tacked after the enemy... and commanded me to tack, which I did instantly... and stood after the Duke within one ship of him'. By about 9 a.m. both fleets were standing to the S.E. Our fleet had lost its carefully prescribed order; Lawson, the Vice-Admiral Red, was leading; the Duke of York was keeping the wind and drawing ahead to prevent the Dutch weathering him; Sandwich followed, leading the Blue squadron; and Rupert with the White squadron was in the rear. Thus the deficiencies of signals had made us fall back on the traditional method of loose groups led by flag officers.

The enemy 'now stood with us side by side', says Sandwich, 'and knocked it out with us for several hours, sometimes at a great distance and sometimes fair by'. 'Few shots reached', says Allin of the *Plymouth*, 'and those laid at random.'

Shortly after noon the *Royal Oak*, Lawson's flagship, sprang her luff and tacked to the westward. Thinking that Lawson had seen some of the enemy trying to get the wind, the Duke stretched out ahead, but hearing that Lawson was mortally wounded, sent an officer to take charge of the ship and returned to the battle. The *Royal Oak*'s movement, followed by other ships at the head of the line, had left Obdam with four or five of his supporters closely engaging Sandwich. The Duke, saying that he himself would 'have a bout with Obdam', closed upon him, supported by three or four ships of the Red and Blue. Upon this the *Groot Hollandia*, still flying the flag of Cortenaer the second in command who had been killed three hours before, bore away out of the line, followed by others of her squadron, leaving a gap in the line astern of Obdam. Sandwich let fall his mainsail and bore up, hoisting the blue flag as a signal to his squadron to follow, and passed into the gap, so cutting the Dutch fleet in half. About 3 p.m. Obdam's flagship blew up and the Dutch Fleet retired in confusion, the van with Evertsen to the Maas, the rear with Tromp to the Texel. Four of the ships Sandwich was engaging fell foul of one another and were

taken, and three more during the pursuit. Two other ships fell into our hands, but the remainder escaped, thanks to Lord Brouncker ordering the *Royal Charles* while the Duke was resting, to shorten sail.

The Duke of York himself had been the first to depart from the strict order of battle. What Sandwich thought of it is shown by the 'admonishment'¹ he issued to his captains in August when left in chief command:

'1. To be in their place according to the order of battle, at the first if possible.

2. If they were hindered of that by any accident, then to be sure to put themselves in a line anywhere, to have their broadsides to the enemy.

3. In tacking and sailing in time of fight to have especial care of falling foul of one another, which is the great occasion of destruction.'

Had it not been for the musket-shots which killed Cortenaer and Stellingwerf, and the accident which destroyed Obdam's flagship, little damage would have been suffered in either fleet; had it not been for the seven Dutch ships running foul of one another, we should have been lucky to have taken any prizes.

In July the Duke of York had struck his flag. At the end of the year Sandwich, having affronted the Council by authorizing a distribution of prize goods, was relieved of his command; Penn, his second in command, went with him. Thus the three officers who had been most closely concerned with the development of the Line of Battle, found themselves on shore, and the Duke of Albemarle and Prince Rupert were made joint Commanders-in-chief for the coming year.

Since 1660 the Dutch had built forty-two ships of 60 guns or more; we had built seven and rebuilt two. In 1666, though in number of fourth-rates and above, the fleets were equal—Dutch 78, English 79—the Dutch third-rates were new 60-gun ships, superior to our large frigates.

On 30 May Rupert left the Downs on his unnecessary journey to meet the French squadron under Beaufort, which waited at Lisbon. He took with him twenty of the best sailers, leaving Albemarle with fifty-six of the heavier or older ships. Allin was Rupert's flag captain. On the morning of 1 June Albemarle² on his way from the Downs to the Swin, sighted the Dutch at anchor and attacked them, saying, as his kinsman Richard Grenville might have done: 'I should be loath to retreat from them, because it goes against my stomach to do it.'³

1 Anderson, *Sandwich*, p. 269.

2 English Accounts: Colenbrander, *Extracts from Foreign Archives*, Vol. 1, pp. 332, 338, 344. Dr Gumble, *Life of General Monck*, Jordan's Journal, p. 428. (Also in G. Penn, Vol. II, p. 388.) Dutch Accounts: *Description Exacte*, pp. 134-43. De Guiche, pp. 233 ff.

3 Colenbrander, Vol. 1, p. 302.

De Ruyter had been making for the Channel when the rising S.W. wind induced him to anchor. He seems to have been steering about W.N.W. in order of sailing, for Tromp with the rear or left wing was anchored about S.S.W. and to windward of the centre, and Evertsen with the van about N.N.E. and to leeward of it. Tromp had the twenty-eight Amsterdam ships, several of them of the new 60-gun class.

Albemarle had fifty-four ships in company. He made the signal for the line of battle but, says de Guiche, 'differences in sailing and the strength of the wind had extended the length of their line, and when the head of it was closing us, we could hardly see the rear'. When Albemarle bore up to attack, he had no more than thirty to thirty-five ships in line with him, and the heavy weather prevented them using their lower tier.

Berkeley the Vice-Admiral White, leading the fleet, passed within musket-shot of Tromp, became closely engaged with two of his squadron and had his mainsail shot to pieces: 'his valour or his rage engaged him so far among the enemy, that neither his discretion nor his friends, knew how to bring him off'. Ayscue his Admiral and most of the White squadron seem to have been far astern of station, the *Prince* being a very heavy sailer; for Jordan with the leading division of the Red was standing on to assist Berkeley, when he observed that Albemarle's flagship was so much disabled that she had tacked to the northward and anchored to repair and that Holmes the Rear-Admiral Red, in the same condition, had anchored near him. Jordan turned back north to support Albemarle, and the remains of the White were left without support. Berkeley's flagship the old *Swiftsure* and his seconds, a prize from the Dutch and a hired ship, were run aboard by some of Tromp's ships and taken. Hence no doubt Penn's remark to Pepys on 4 July:¹ 'We must fight in a line, whereas we fight promiscuously. . . . We must not desert ships of our own in distress, for that makes a captain desperate, and he will fling away his ship, when there are no hopes left him of succour.'

De Ruyter got up into action in the afternoon and Evertsen late at night. About 10 p.m. the Dutch tacked to the southward and the fleets separated for the night. Three English ships had been taken and two had run for port, all from the White; two Dutch ships had caught fire and burnt, and Tromp and his Vice-Admiral had had to shift flag and send their ships into port.

During the night the fleets lay by the wind refitting. On the morning of 2 June the wind was light and variable from the S.W. quarter. The Dutch had about eighty ships, the English forty-four. At 7 a.m. the English fleet, having gained the wind of the Dutch, wore round to the N.W. and

¹ Pepys, *Diary*.

stood down to engage. 'The English fleet', says de Guiche, 'came back in admirable order; it advanced in line like an army, and when it approached, deployed and turned to bring its broadsides to bear.' The Dutch tacked to the S.E. and about 8 a.m. the first 'pass' began. The English Account printed by Colenbrander says:¹

The manner of fighting at that time was that each fleet lay in a line, and when the ships of one fleet lay with their heads to the northward, the heads of the other lay to the southward, the headmost ships of our fleet engaging first the headmost of theirs: so passing on by their fleet in a line, firing all the way, and as soon as the rear of one fleet was clear from the rear of the other, then each fleet tacked in the van, standing almost stem for stem with one another to engage again; by which means there was at least an hour's respite between each encounter.

This method of fighting allowed the lesser ships to use their guns and musketry without having to withstand for long the fire of heavier opponents; the respite gave time for reloading and repair; and the freedom of movement gave opportunity to gain or keep the wind and offered less opening to attack by fireship or boarding. On the other hand, as de Guiche remarks of the fourth day's fighting: 'When one passes from ship to ship stem to stem, the direction of movement separates them quickly; but when one engages broadside to broadside, one has the time and the means to take fair aim.'

About 10 a.m. the English tacked to the southward, the Dutch to the northward. Towards the end of this pass Tromp luffed up, tried to gain the wind of the English van, fell into the body of our fleet, and de Ruyter had to tack back to save him. 'About twelve o'clock', says the English Account, 'we thought we had routed the enemy; but de Ruyter, with great courage and skill, got them together in good order.' The English ships had suffered too much damage to profit by the temporary disorder of the Dutch; about 2 p.m. the fleet tacked to the northwestward, weathered the Dutch and drew together. One ship had sunk, another had been burnt by order; others, damaged aloft, had stood for England 'without acquainting the General'. As soon as the rear was clear of the enemy the General called a council of flag officers which, perceiving that there were but thirty-four ships left, resolved to continue on the course for England, 'and the Dutch tacking only in the van as they were used to do, by that means we got at least a league before them'.¹

The Dutch followed the English all night and next day, with wind so light they made but little headway. Early on Whitsunday the 3rd of June Albemarle resolved in council 'to draw our fleet into a rear line of battle and make a fair retreat of it', with his sixteen best ships in 'line abreadth'—a formation instituted by Sandwich in 1665—and the weak ships before

1 Colenbrander, Vol. 1, p. 335.

them. The best sailers of the Dutch 'came first in parties, but finding it too hot service to attack him stayed for the rest of their fleet'. Jordan adds: 'Some shot they spent (to little purpose) which we slighted, our Stern pieces outreaching their broadsides, made divers of them go off again.'

About 2 p.m., when the leading Dutch came within shot, Prince Rupert's squadron was sighted to the westward. Albemarle turned to close and ran upon a tail of the Galloper Sand; the *Charles* and *Katherine* touched and came off, but the *Prince* stuck fast and was taken and burnt by the Dutch.

At daylight on 4 June the wind was S.W.; the Dutch were soon discovered 12 miles to the southward, sails to the mast to stay for us, and heads N.W. They were sixty-four strong, the English about sixty. We steered to close, about S.S.E., led by Myngs in the *Victory* and his division, followed by those of Rupert and Spragge, in very good order.

Firing began about 8 a.m. Towards the end of the first pass the rear division of the Dutch fleet bore away 'to fall into the middle of our line'; Myngs, having their wake, tacked to the W.N.W., but was forced to leeward, and a regular dog-fight ensued, in which the whole of our van, Tromp and part of the Dutch centre, became involved. Rupert kept the wind and led the line through the body of the Dutch fleet, the rest of our fleet following in good order. De Ruyter with his own division kept to windward. Rupert and Albemarle with some forty ships plyed to and fro between de Ruyter and the dog-fight to lee-ward, engaging mainly the latter. During the fifth pass, the English then standing north-westerly, de Ruyter hoisted the signal for close action and bore down to succour his ships to leeward. Rupert weathered him, lay by a short time to repair his rigging, and was about to bear down and break into the Dutch fleet when everything aloft, says Allin¹ 'came down about our ears. . . we had much ado to get from them, they making sail to cut us off from the *Charles* and party to leeward. And seeing the *Charles* and many other ships laying sails aback to stay for them, bore away to leeward and glad to part.' The English Account says: 'There fell a fog, but lasted not long, during which the Dutch steered away to their own coast, and the English towards theirs.'

We left four ships in the enemy's hands, making ten in all: on the first day, three by boarding; on the second, one sunk by gunfire, one burnt to prevent capture; on the third, the *Prince*, by grounding. Five were prizes from the Dutch, one from the Portuguese, one a hired ship, and three men-of-war—the *Prince*, *Swiftsure*, and *Essex*. We had, it is said, 5000 killed and wounded, and 3000 prisoners. Among the killed were two Flag Officers, Berkeley and Myngs, both killed while leading the line. Six fire-ships were expended.

¹ Anderson, *Allin*, Vol. I, p. 269.

The Dutch lost four ships: on the first day, two caught fire; on the second, one burnt by fireship; on the fourth, the same. They had, it is said, 2000 killed and wounded, among the killed, two Flag Officers. Five fireships were expended, three of them in an unsuccessful attempt on Harman's flagship.

The Dutch owed their victory chiefly to the skill with which de Ruyter timed his 'charges' on the second and fourth days. Though the English had been defeated with heavy losses, the fighting had shown that in handling their ships in line they were superior to the Dutch.

When Albemarle said he knew now the way to beat them,¹ did he not mean that he found out how to make better use of the heavy gun? For in the Four Days Fight the fleets engaged for the most part by passing on opposite courses at a range of 200 yards or more. There were at least ten such passes, each taking about three hours; the English ships carried 40 rounds per gun and no ship had less than 10 remaining.² Each gun therefore fired on average three rounds per gun per pass or, overall, one round per gun per hour. In the St James's Day Fight fought on parallel courses at about 50 yards the action was decided in four hours. 'It's thought says Jordan,³ 'never more guns discharged in so short a time', and de Guiche reported that on St James's day the English 'closed to musket-shot and it is thus that one should fight; the rest causes more noise than hurt. . . a spectacle but little perilous'.

To the Order of Battle drawn up by Prince Rupert and approved by the Council of Flag Officers on 29 June,⁴ he thought it necessary to add instructions, as Sandwich had done in 1665, reminding captains that 'the destruction of the enemy was always to be made the chiefest care', and providing for the disablement of a flagship, which had prevented his counter-attack at the end of the Four Days Fight. He also provided a signal for directing the best sailing ships to close and engage the enemy; this confirmed and regulated a practice in use since 1653, and with honourable use to come. Had Rupert's strong words been carried on into the permanent instructions followed in the eighteenth century, we might have had more victories and fewer courts-martial.

Three more Additional Fighting Instructions were approved by the Council on 18 July, in the presence of the King and the Duke of York.⁵ Two of these prescribed the action to be taken when meeting the enemy

¹ Pepys, *Diary*, 10 June.

³ Journal, Gumble and Penn, *loc. cit.*

⁵ Corbett, *Fighting Instructions*, p. 148. Sir Julian Corbett attributed them to 1672, rightly surmising that they were of earlier origin. See *Mariners' Mirror*, 1953, p. 63; Jordan's Journal in Gumble, p. 437, and in Penn, Vol. II, p. 388.

² Colenbrander, Vol. I, p. 338.

⁴ Colenbrander, Vol. I, p. 414.

on an opposite course. They were the first attempt to co-ordinate the attacks of the three squadrons, hitherto directed severally 'to take the best advantage they can'.

According to *Jordan's Journal* the Council also resolved: 'We should endeavour to keep the wind of them, not to begin the Battle till the van of our fleet should get up with theirs, and then the rest to fall in close in their lines appointed, that the Enemy (which usually and might lay in an Half-moon)¹ should not be able to tack upon us to gain the wind.'

The new method of attack from to windward, deploying the whole fleet along the whole length of the enemy's line, brought some success in the coming fight, but in later years the French were to find a counter to it; the attack from to leeward, attempted at Sole Bay and the Texel, proved ineffective and was superseded by a group of signals in 1691. However, the method of fighting by successive 'passes' on opposite courses was gone for good, followed in due time by the disappearance from the line of battle of ships not fit to hold a place in it.

At the St James's Day Fight, 25 July 1666,² the Dutch had eighty-eight ships, besides fireships and small craft, the English eighty-nine. Twenty-three of these were fresh ships: the *Sovereign*, *Loyal London*, four new third-rates, and seventeen others, mainly fourth-rates, including several Dutch prizes and a few hired ships. The Generals, Albemarle and Rupert, were in the *Royal Charles* in the centre, Sir Thomas Allin commanded the White Squadron, which was in the van, and Sir Jeremy Smith the Blue. On the Dutch side, Jan Evertsen commanded the van, de Ruyter the centre and Cornelis Tromp the rear.

At 4 a.m. the English Fleet standing to the eastward with a 'fine gale' from N.N.E., discovered the Dutch S.E. by S. 12 miles, on the same tack. Clifford says: 'We bore lasking upon them to engage van to van.' About 9.30 when the English van had nearly come up with the Dutch, the latter opened fire; at 10 the Generals made the signal 'to bear in in a line', and our leading ship opened fire; the Red Squadron opened fire about 11, and the Blue about 12. De Ruyter says: 'To my surprise and that of others Admiral Tromp with his sails brailed up remained too far astern of me and the van was too far ahead, so that the enemy got himself into the middle.' Instead of supporting his Admiral, Tromp hugged the wind, gained the

¹ De With's order for the Half-moon formation of the fleet and of the squadron was intended to save the flagships from disablement. See Captain Warnsinck, *Admiral de Ruyter, De Zeeschlag op Schooneveld*, Ch. xvii.

² English Accounts: Anderson, *Allin's Journal*, Vol. 1, p. 277; Gumble, *Monck*, p. 437; Clifford, Colenbrander, Vol. 1, p. 428; Talbot, Colenbrander, Vol. 1, p. 415; *Narrative, Diagram, Account*, Colenbrander, Vol. 1, pp. 417, 420, 436. Dutch Accounts: De Guiche, p. 276; *Description Exacte*, p. 151.

weather gage, sent in his fireships and burnt the *Resolution* (late *Tredagh*), and then accompanied by our Blue Squadron, stood off to the westward, taking no part in the main action.

Fighting in the centre was severe. De Ruyter says: 'There was a furious fight between the ships of my squadron and those alongside them. . . after three hours they were obliged to withdraw. . . This gave us a short rest, but being unable to refit, we saw our van draw off more and more with all sail set. . . seeing which the English General turned on me and the few ships with me. . . I could not close Admiral Tromp who was to windward of me; though he could easily close me he did not, I know not why. We then retired fighting towards the South.'

It was evidently de Ruyter's own conduct and example that maintained the stout resistance of the Dutch centre. For though Allin complained that 'our people were very awk to get into a line and some never did', by 1 p.m. Evertsen and two of his flag officers had been killed, Banckert's flagship had been set alight by a fireship, and the leading ships began to bear away. In the pursuit, Banckert's flagship and another ship were taken and burnt, but the rest of the Dutch made good their retreat, due to de Ruyter's skill and conduct, to the lightness of the wind, and to our fear of the shoals.

The English lost one ship, burnt by fireship, and the casualties were said to have been only 300. The *Royal Charles* and three ships from the leading squadron were sent in for repair; the remainder, though their masts and hulls were 'much shattered', stayed at sea. The Dutch had lost only two ships, but had suffered so much damage that they did not put to sea again for a month, permitting Holmes to make his 'bonfire' in the Vlie without interference. The Dutch were said to have suffered 5000 casualties, surely an exaggeration, but they must have been heavy. Our victory was due, in the first place, to the guns of the two leading divisions, which had, in about three hours, driven the Dutch van out of the line; secondly, to the support given them by our centre.

Tromp was dismissed, and not forgiven till 1673. What Tromp said about Spragge, who had been opposing him, that drew these two officers from their duty to their fleets into personal conflict, remains, like the song of the sirens, unknown.

As in former battles, the flagships had taken the major share in the fighting. When the war was over the Admiralty took steps to replace the *Prince* and the four three-deckers taken or burnt by the Dutch in the Thames in 1667, but though they had completed four two-deckers similar to the new Dutchmen in 1666 and two of them, the *Warspite* and the *Cambridge*, had played an active part in the St James's Day Fight, they built

only three more of them. Not so the Dutch and the French. When Colbert expanded the French fleet in 1666, he ordered six ships of the new type in Holland, of 1100 tons, and with the help of designers from Italy, improved upon it. When the French fleet came to St Helen's in 1672, the King and the Duke greatly commended the *Superbe*, and commanded Deane to build a ship as near as he could of her dimensions.¹ This ship, the *Harwich*, of 70 guns and 993 tons, completed in 1674, became the pattern for the twenty third-rate ships built under the Act of 1674, and hence, for the 74-gun ships which formed the bulk of our line of battle in our long contest with France.

1 J. R. Tanner, *Pepys's Naval Minutes*, p. 343. (N.R.S. Vol. LX.)

RUSSIA IN THE MEDITERRANEAN, 1788-1791: A LITTLE-KNOWN CHAPTER IN THE HISTORY OF NAVAL WARFARE AND PRIVATEERING

By M. S. Anderson

IN the last weeks of 1769, for the first time in history, a powerful squadron of Russian men-of-war appeared in the Mediterranean. Reinforced by further squadrons from the Baltic, it inflicted on the Turks, on 5-6 July 1770 at Chesmé off the coast of Asia minor, perhaps the most crushing defeat recorded in the history of naval warfare. It is true that it made no effective use of the victory, and that in the years which followed, until hostilities were brought to an end by the treaty of Kuchuk-Kainardji in July 1774, the Russians achieved comparatively little in the Levant. Nevertheless, their victory seemed to show that in future it might be possible to launch a successful attack on the Turkish capital from the Mediterranean, and in the renewed Russo-Turkish friction of the early 1780's the idea of such an attack was not forgotten in St Petersburg.¹

Thus within a few months of the outbreak of a new war with the Porte in August 1787, Catherine II was preparing for the despatch to the Mediterranean of a substantial naval force. Admiral Samuel Greig, a Scotsman who had served for nearly a quarter of a century in the Russian navy and who had played an important part in the campaign of 1770, was appointed to command this fleet, and on 16 June 1788 was given detailed instructions by the Empress about the operations he was to undertake.² Simultaneously, Russian agents in Sicily were making extensive preparations for the reception and provisioning of his ships in the ports of the island. A Greek in Russian service, A. K. Psaro, collected naval stores at Syracuse, which was intended to become the main Russian base,³ while an Italian

¹ For example in February 1783, when growing Russian domination of the Crimea appeared likely to lead to a new outbreak of hostilities, a plan was drawn up for an attack on the Dardanelles by a Russian squadron operating from bases in the Mediterranean (A. N. Petrov, *Vtoraya Turetskaya Voina v tsarstvovanie Imperatritsy Ekateriny II, 1787-1791 g.* (St Petersburg, 1880), Vol. 1, pp. 116-17.

² *Ibid.*, Appendix 9, and pp. 117-22. All dates are given in the new style, which was at this time eleven days in advance of the Julian calendar which continued to be used in Russia until 1917.

³ The Russian Government would have preferred Malta, but found it impossible to persuade the Grand Master of the Order of St John, the owners of the island, to allow them to use it. Psaro, who had been appointed Russian chargé d'affaires there in 1780, had already attempted unsuccessfully to provoke a revolt of the native Maltese against the Order, a revolt which it was hoped would lead to Russian domination of the island.

called Manzo constructed ovens at Messina and Reggio for the baking of large quantities of ship's biscuit.¹ It seemed that once more the Turks were to be subjected to the attacks of a powerful Russian fleet in the Levant.

This did not happen, partly because Catherine had made a simple but crucial miscalculation. The transference from the Baltic to the Mediterranean in 1769-70 of three squadrons of Russian ships had been made possible only by the favourable attitude of the British Government. The ships in question had been commanded in many cases by British officers, and had been repaired and refitted when necessary in British ports, even in naval dockyards. They had been allowed to buy considerable quantities of British supplies and equipment, to hire British merchantmen for use as transports, and to make extensive use of British bases in the Mediterranean, Gibraltar and above all Minorca.² It seems certain that without this aid they could have achieved little or nothing. By 1788, however, the position had changed radically. The friendship which had existed in British governing circles two decades earlier was being replaced by a rapidly growing hostility and distrust, and the British Government now proved completely unco-operative. It made it clear that British dockyards and repair facilities would no longer be at Russia's disposal. It also forbade its subjects to enter Russian service, and thus made it impossible for Catherine to hire, as she had hoped, 6000 tons of British merchant shipping for the transport of troops to the Mediterranean.³ Not content with this it even made approaches to the French Government for joint action to prevent the movement of a Russian fleet through the English Channel.

More important even than the attitude of the British Government, however, was the attack on Russia suddenly launched by Gustavus III of Sweden in July 1788. Faced with a struggle to defend St Petersburg, Catherine was now quite unable to contemplate any weakening of her Baltic squadron. She was thus forced by the spring of 1789, much to her chagrin, to abandon the idea of a large-scale naval campaign in the Levant. By the beginning of March, orders had been given for the sale of the naval stores which had been so laboriously accumulated in various Italian ports to supply the expected Russian fleet.⁴

1 Auriant, 'Un agent de Catherine II en Egypte: M. de Thomus', *Acropole*, Vol. II (1927), p. 122.

2 M. S. Anderson, 'Great Britain and the Russian Fleet, 1769-70', *Slavonic and East European Review*, Vol. xxxi (1953), pp. 148-63.

3 *Arkhir Knyazyia M. L. Vorontsova*, ed. P. I. Bartenev, Vol. XIX (Moscow, 1870-97), pp. 354, 359-60.

4 Ritchie (British Consul at Venice) to the Marquis of Carmarthen (Secretary of State for Foreign Affairs), 3 April 1789, no. 10, Public Record Office, F.O. 81/7. Catherine came to this decision with the greatest reluctance. As late as the end of March the Russian consul at Leghorn,

By then, however, ships, under the Russian flag had already been attacking Turkish commerce in the Adriatic and the Archipelago for about a year. They were not, as Catherine had hoped, Russian warships, but privateers led by a remarkable Greek, Lambros Katzones.

Katzones had entered the Russian navy as a volunteer in 1770 and had remained in Catherine II's service after the treaty of Kuchuk-Kainardji. A captain in 1786, he fought against the Turks at Ochakov in 1787 under the command of Rear-Admiral Count N. S. Mordvinov, on whom he appears to have made a good impression, and was sent by him to the Mediterranean early in 1788. During the first year of his activity there, however, he acted not as a Russian officer but as simple privateer captain. Towards the end of 1787 a group of officers attached to the Russian Black Sea fleet—Mordvinov himself, Colonel F. I. Markov, and Colonel Samuel Bentham¹—together with an official called Skadovskii, united to fit out a privateer to prey on Turkish shipping in the Mediterranean and chose Katzones to command it. It was with this object in view that he reached Trieste in January 1788. A substantial credit had already been arranged for him with a local banker, and only two days after his arrival he found a suitable ship, the *Minerva*, English-built, designed as a privateer, and capable of mounting 30 guns. This he bought with the help of Varucca, the Russian consul (also a Greek) for 17000 florins, and fitted out with arms and ammunition obtained from Venice.² His example, moreover, prompted the owners of a number of small vessels manned by mainly Greek crews to ask for Russian letters of marque.³ A privateering squadron was already beginning to take shape, and the declaration of war by Austria against the Turks in February 1788 ensured it the continued use of Trieste as a base.

With the *Minerva* and perhaps one or two other ships Katzones set sail, probably in April 1788, and for several months was highly, even brilliantly, successful. On 22 April he captured a Turkish corsair at Porto-Chierri, violating Venetian territorial waters to do so, and after plundering her burnt her at Zante (Zakynthos) three days later. Soon afterwards he set up a temporary base on the island of Cerigo (Kythera), from which he took a

a Greek called Kalimai, appears to have been told that a powerful squadron under Greig conveying a fleet of 248 merchantment with a large number of soldiers aboard would soon arrive in the Mediterranean, and to have been authorized to raise 200,000 florins by bills of exchange to supply its needs (Auriant, *loc cit.* p. 121).

¹ The younger brother of the great political and legal theorist, Jeremy Bentham. He had been in Russia since 1780, and had played a part of some importance in the naval fighting of 1787 in the Black Sea.

² *Arkhiiv Grafov Mordvinovykh*, ed. V. L. Bil'bassov, Vol. II (St Petersburg, 1901-3), pp. 359-64.

³ Ritchie to Carmarthen, 20 February 1788, F.O. 81/6.

number of small Greek ships. On 10 May he made a more important capture, a large Turkish vessel with a crew of 170, but found her so damaged that she had to be burnt. When he returned to Zante some days later he had under his command a xebec, a kirlangich, a polacre, a 'paquebot' and two ships which he had just captured from the island of Hydra. A month later, on 4 July, he seized after a struggle the fortress of Castellorosso (on the northern shore of the Gulf of Cattaro), took on board all the serviceable guns it contained, and threw the others into the sea. The garrison he sent to Anatolia, fearing that if they were killed or even taken prisoner the Greek inhabitants of the town might suffer from Turkish reprisals. A few days afterwards, on 19 July, he took and burnt, off the coast of Cyprus, a tartan *en route* to Acre. Six weeks later, on 31 August, off the island of Scarpanto (Karpathos) in the Dodecanese, he fell in with a Turkish squadron of a ship of the line, a frigate, and six small kirlangiches. Besides his own ship, which mounted 28 guns, and was manned by a mere fifty men, he had with him only two small prizes laden with rice and coffee. In spite of this he fought five of the Turkish ships for ten hours and eventually beat them off, though both the prizes were retaken. The action, however, was obviously not a very close one, if we accept his statement that only one of his crew was killed and only four wounded.

These successes naturally led to defensive measures on the part of the Turks. By the end of July they were reported to have concentrated at Chios six men of war (of unspecified size) and six xebecs sent by the Dey of Algiers to aid the Sultan, his nominal overlord.¹ Katzones himself alleged that by the end of August they had been compelled by his depredations to send eighteen armed ships of various sizes to the Archipelago, and by 26 October, when he returned to Trieste for the winter, he had been able by taking Turkish ships, arming them at his own expense, and manning them with Greeks from the Morea, Albania and the Ionian islands to build up a squadron of nine ships, most of them of course very small.²

So far his achievements had been remarkable, but already difficulties were beginning to show themselves. Neither Psaro nor Count Dmitri Mocenigo, the Russian minister in Florence who acted as one of the main links between the Russian Government and these privateers, had welcomed Katzones's successes, in spite of the fact that they were themselves Greeks.

¹ Ritchie to Carmarthen, 20 August 1788, F.O. 81/6.

² This narrative of his operations is based mainly on his letter to Mordvinov, written from Trieste on 11 November, in *Arkhiv Grafov Mordvinovykh*, Vol. 1, pp. 462-7. Ritchie reported on 24 October that Katzones had 18-20 small craft under his command. Presumably rumour had exaggerated the size of his forces. According to the British consul at Trieste thirteen privateers flying the Russian flag arrived there in the middle of November to winter and refit (E. Stanley to Carmarthen, 9 January 1789, F.O. 97/61).

They envied him, he alleged, for accomplishing much without official backing, whilst they, after spending large sums of public money in efforts to stimulate privateering against the Turks, had achieved so little result. Moreover, he had contracted considerable debts at Trieste and elsewhere in order to arm and equip his prizes. Above all the privateers under his command had embarrassed Catherine and her ministers by interfering with a number of neutral ships, so that the Empress had been driven to ask the Venetian commander in the Adriatic, Admiral Emo, to prevent or rectify as far as he could illegal acts committed by vessels claiming the protection of her flag.¹ In particular, they had taken and plundered a French ship, which led to a serious protest and demand for their punishment by the French consul at Trieste. The position was further complicated by the fact that the Russian letters of marque held by some of Katzones's ships were almost certainly not genuine. The result of all these enmities, claims and grievances was that he was arrested by the Austrian authorities at Trieste at the end of 1788 and a number of his ships seized.

Several new personalities now enter the story. The first of these was Count M. I. Voinovich, who as a Russian consul in the Greek islands of the Archipelago had in previous years done much to prepare the way for an anti-Turkish rising there. He assumed temporary command of what remained of Katzones's squadron, and thus perhaps preserved it from complete disintegration. The other was General I. A. Zaborovskii, who had been intended to command the troops to be convoyed to the Mediterranean by Greig's fleet,² and who had been in Italy for some time recruiting Greeks, Albanians and Corsicans for service in the Russian forces. He appears to have realized that if these ships were to become an effective fighting force and not to degenerate into a mere gang of pirates they must have some official backing. He thus secured Katzones's release after a short imprisonment, and attempted to bring the privateers based at Trieste under some semblance of official control by recognizing them as part of the Russian navy. The Russian Government provided 25000 florins to arm and equip them, and Zaborovskii persuaded a number of merchants in various Italian ports to advance additional sums of money for this purpose.³

Meanwhile, a second privateering squadron was being fitted out at Trieste. It was commanded by a young man called de Chapelet, who appears to have been a lieutenant in the Russian navy and who was, in spite of his name, a Greek and a nephew of Psaro. His little fleet consisted

¹ Ritchie to Carmarthen, 20 August 1788, F.O. 81/6.

² Catherine II's instructions to him, of 18 March 1788, are printed in Petrov, *op. cit.* Appendix 10, and in *Russkii Arkhiv*, 1866, p. 1373.

³ *Arkhiv Grafov Mordvinovykh*, Vol. II, p. 370.

of six small ships, the largest of which, a corvette, mounted only 16 guns. Each of them, significantly enough, had on board a Russian officer who was intended to act as a representative of his government and see that the ships in question did not prejudice Russian interests by attacking neutral shipping¹. Moreover, on de Chapelet's flagship there was a Russian commissary, Captain Christophoro Giorgio (another Greek), who was to supervise and direct his activities. Since, however, nearly all of these were infantry officers without naval experience of any kind, their control over the movements of the squadron once it had put to sea was probably not very great. There is no doubt that these ships, with their undisciplined semi-piratical crews of many tongues and nationalities—mainly Greek and Italian, with a sprinkling of English, French and Corsicans—needed the strictest supervision. An officer on board the French corvette *La Belette*, which met de Chapelet's squadron early in 1789 off Santo Mauro in the Ionian islands and accompanied it for a considerable time to make sure it did not molest French merchantmen, was impressed by the poor quality of the sailors who manned it. He noted that the ships carried on their poops two guns pointing forward, as was usual in slavers, to keep the crews under control if necessary, that there was much desertion, and that the captains obviously distrusted each other. De Chapelet indeed admitted in confidence that of the six ships under his command only two, which had Russian soldiers on board, could be relied on to obey his orders. One of his captains, Spiro Caliga, proved on investigation to be a well-known pirate who was now saved from punishment only by his possession of a Russian letter of marque.² It is scarcely surprising, therefore, that the squadron seems to have achieved nothing beyond the burning of a small Turkish ship under construction and the capture of a few insignificant prizes.

The successes of Katzones in 1788 had not been ignored in St Petersburg. They seemed to show that an organized force of small craft under effective leadership might strike a serious blow at the Ottoman Empire, above all by interrupting the seaborne food supplies of Constantinople, and an effort to create such a force was not long in being made. Early in 1789

¹ One of these officers, a lieutenant, was an Englishman called George Smith (Auriant, 'Les corsaires grecs alliés de la Russie, 1787–1789', *Acropole*, Vol. ix, (1934), p. 22).

² Capitaine de vaisseau De Maupeou, 'Les premiers Russes en Méditerranée (1770–1807); les corsaires Moscovites', *Revue de Défense Nationale*, nouvelle série, Vol. iv, pp. 516–19. The ferocity with which some Russian privateers treated prisoners, and the indiscriminate way in which they plundered ships of all nationalities, are perhaps illustrated by the diary of William Davidson, an Englishman who served on one of them in December 1788–September 1789. It is most conveniently accessible in *A History of Shipwrecks and Disasters at Sea*, ed. C. Redding, Vol. III (London, 1833–5), pp. 185–205. It would be interesting, however, to know whether the authenticity of this remarkable document has ever been investigated. Some of the events described in it seem inherently improbable.

an Englishman, Rear-Admiral Samuel Gibbs,¹ was sent to Leghorn to organize a squadron of this kind. With the help of Psaro and other agents he soon collected at Syracuse a useful force. It was led by a well-known Maltese corsair, Guglielmo Lorenzo (or Lorenzi), and appears to have consisted originally of his own ship, the *Fama*, and three other vessels bought by the Russian Government, sent by Voinovich to Sicily, and placed under his command. With this little fleet Lorenzo cruised off the Dardanelles for some time in an effort to cut off the vital food supplies which the Turkish capital drew by sea from Egypt and Anatolia. His activities were not altogether negligible, for he appears to have fought a successful though not very conclusive action with a Turkish squadron off the island of Skyros, and eventually to have increased the force under his command to nine ships.² He also played a minor part in the unsuccessful efforts made in August and September 1789 by a Russian agent, Thomus, to persuade the Mamluk Beys who then ruled Egypt to revolt against Turkish rule and put themselves under the protection of Russia.³

The position by the summer of 1789 was thus one of considerable complexity. There were now three squadrons cruising in the Levant under the Russian flag, that of Lorenzo, that of de Chapelet, and that of Katzones who had sailed from Trieste in May. Relations between their commanders were far from cordial. In particular, it is clear that Lorenzo and Katzones were extremely jealous and suspicious of each other, and things were made worse by the fact that neither had been given any formal authority over the other.⁴ Moreover, the instructions which Katzones had been given by Zaborovskii appear to have conflicted in some respects with those which Lorenzo had received from Gibbs. In fact the Russian Government, having helped to create these squadrons, had completely failed to provide them with effective leadership, and this was soon to prove disastrous. When the three met, at the island of Zea (Kea) in the middle of July, Katzones refused absolutely to comply with Gibbs's orders, and Lorenzo thereupon put to sea, taking with him de Chapelet's six vessels. Two days later, on the 15th, he met a Turkish squadron of fourteen ships off the island of Syros. The action which followed was in itself indecisive, but in

¹ He entered the Russian navy in 1754, served at Chesmé, was promoted Rear-Admiral in April 1789 just before he went to Leghorn, and became Vice-Admiral in 1793.

² *Arkhiiv Grafov Mordvinovykh*, Vol. 1, p. 329; Auriant, 'Les corsaires grecs', *op cit.*, pp. 23-4. The Grand Master of the Order of St John, however, refused to allow him to recruit sailors at Malta and forbade his lieutenant, Angelo Franceschi, whom he had sent there for that purpose, to land.

³ Auriant, 'Un agent de Catherine II', *op. cit.* pp. 123-7.

⁴ See Zaborovskii's orders to Katzones of March 1789 in *Arkhiiv Grafov Mordvinovykh*, Vol. 1, p. 490.

effect a victory for the Turks. Lorenzo retired, first to the island of Argenteria (Kimolos) to repair damages, and then to Malta and Syracuse.¹ Though he remained a Russian officer, at least in form, until 1792, with this battle his active service virtually came to an end. De Chapelet also now disappears from the story.

Katzones alone of these three commanders was still capable of causing serious inconvenience to the Turks. The day after the action which had led to Lorenzo's retreat he was attacked by the same Turkish squadron off the island of Andros, about 20 miles north-east of Zea, and forced to flee to Cerigo (Kythera), leaving a number of men and guns ashore at Zea and abandoning one of his ships, which the Turks burnt. The rest of his squadron then scattered over the Archipelago, hiding apparently as much from Lorenzo's ships as from the Turks.² He remained, nevertheless, in a position to harass Turkish shipping and the coasts of the Ottoman Empire with some effect. In September a cutter of the Austrian navy sailed from Trieste to join him, and in the following month three 'Russian Corsairs', which may have been part of the force under his command, captured the same number of Turkish ships in Venetian territorial waters.³

By the end of the year he had returned to Russia, apparently to beg for further support from Prince G. A. Potyomkin, the Russian Commander-in-Chief and favourite of Catherine II. The journey led to the recall early in 1790 of Gibbs, Psaro and Lorenzo, a recall which greatly strengthened the position of Katzones who was promoted to Colonel and given the Cross of St George.⁴ In all probability it also led to the appointment of Potyomkin in December 1789 as supreme commander of what remained of the Russian squadrons in the Mediterranean. He had assumed this position, wrote Catherine II in the following April, so that their operations could be combined with 'celles de nos armées de terre et de mer du côté du Sud',⁵ a phrase which implies that they were still felt in St Petersburg to constitute a reasonably effective fighting force.

The early months of 1790 saw Katzones back in the Levant once more preying on Turkish shipping. Such was the damage he inflicted that the Porte finally despatched against him a powerful force of two ships of the line, eight frigates, and six xebecs, commanded by the Seraskier Ismail Bey and Melek Pasha. After rebuffing an attempt to bribe him into inactivity

1 Auriant, 'Les corsaires grecs', *op. cit.* p. 24.

2 *Arkhiiv Grafov Mordvinovykh*, Vol. II, p. 370.

3 Ritchie to the Duke of Leeds, 2 October and 4 December 1789, F.O. 81/7. Admiral Emo returned one of the captured ships to its owners and promised to try to recover the other two.

4 *Arkhiiv Grafov Mordvinovykh*, Vol. II, pp. 370-1.

5 *Sbornik Imperatorskogo Russkogo Istoricheskogo Obshchestva*, Vol. XLII, (St Petersburg, 1867-1916), pp. 55, 77.

he sailed boldly to meet the Turkish force, first at Hydra and then at Zea, after destroying a number of small vessels laden with food for Constantinople. He hoped to meet at the latter island a number of Albanian (presumably Greek) pirates, and also to prevent the transport by sea from Asia Minor of a body of Turkish troops *en route* to Adrianople. The Turks, however, were too quick for him. Ismail Bey reached Zea on 16 May 1790 and at once destroyed the Albanian ships he found there. He was also joined by a number of vessels from Algiers, so that Katzones, when he arrived a day later, found his nine small ships faced by no less than thirty-two of the enemy's. After fighting all day he attempted to escape during the night, but lack of wind made this impossible. Next day five of his ships were so completely shattered by the fire of the Turks that he ordered them to be blown up. One of them was his flagship, and he himself was wounded. The four surviving ships fled to the island of Curzola (Korcula) off the Dalmatian coast.¹

Even after this severe defeat he appears to have hoped to resume his campaign against the Turks, but the days of his activity were now almost over. He still remained, however, a figure of some importance. When in April 1791 the Anglo-Russian hostility which had been smouldering for several years came to a head in the so-called 'Ochakov Crisis', and the two countries seemed for a few days on the point of war, he prepared to attack with the ships under his control British commerce in the Mediterranean.² Only the peaceful settlement of the issues in dispute prevented his launching what might have been a destructive onslaught on Britain's trade with Italy and the Levant. Moreover, Major-General Vassily Tamara (yet another Greek in Russian service) who had been sent to the Mediterranean to reorganize and unify the forces under Russian control there, appointed him as commander of the squadron thus created. Katzones thus found himself, in August 1791, in command of a very miscellaneous force consisting of a small frigate, three corvettes, a xebec, a saita, two gunboats, and a number of kirlangiches and other small craft.³ In the same month, however, the signature of an armistice brought the war to an end. With the coming of peace he, with a considerable number of his followers—Greeks, Levantines and Italians—entered the Russian galley fleet on the Black Sea.⁴

¹ Petrov, *op. cit.* Vol. II, pp. 125-7. His own account of the engagement can be found in his letter to Mordvinov (in Italian) of 21 October, *Arkhiv Grafov Mordvinovykh*, Vol. II, 368-9.

² Sir Francis Vincent (British Minister to Venice) to the Duke of Leeds, 29 April 1791, F.O. 81/8.

³ List in *Arkhiv Grafov Mordvinovykh*, Vol. II, pp. 374-5.

⁴ The names of 87 of them can be found in *ibid.* Vol. II, pp. 280-4. According to George Finlay, *The History of Greece under Ottoman and Venetian Dominion* (Edinburgh-London, 1856), pp. 333-4, at the end of the war he became the leader of a gang of pirates, and after attacking and burning two French vessels at Nauplia, in May 1792, was attacked by a Turkish squadron, supported by a French frigate, at his base of Porto Quaglio in the Peloponnese, losing all his ships. I have found no evidence to support this story.

His activities left behind them a legacy of complicated and acrimonious financial disputes. Mordvinov and his associates who had financed the original venture in 1788 complained, with reason, that Katzones had never satisfactorily accounted to them for the prizes he had taken. They also alleged that they, as his backers, were the legal owners of the squadron which he had built up by the end of that year from the ships captured by him, and that the state having, by the action of Zoborovskii and Tamara, virtually incorporated these ships in the Russian navy, must compensate them for this act of confiscation. To this Tamara replied that Katzones had borrowed a good deal of money from the Governor of Trieste, the Archbishop of Modon, and a number of merchants, thus contracting debts which, largely for political reasons, had had to be paid with government funds. Also some of his ships, though captured or bought by him, had been armed at government expense, some of those owned by him had been transferred from his squadron to that of Lorenzo, while others were owned, or partially owned, by individual captains.¹ Moreover, he in his turn had large claims against the Russian Government, above all in respect of the five ships he had lost in the action of May 1790.

The discussions, disputes, proposals and counter-proposals to which this position gave rise dragged on for almost a decade.² In 1797 Katzones was satisfied by an order for the payment to him of 576,704 roubles as compensation for what he had spent in fortifying Zea, for the losses he had incurred in 1790 and for one of his ships which had been taken from him for government use.³ It seems unlikely, however, that Mordvinov and his associates, in spite of petitions, memoranda, and threats of legal action, ever recovered the money which they were claiming.

It would be difficult to argue that the activities of these undisciplined, largely unorganized, and semi-piratical squadrons had much influence on the outcome of the war. No doubt they possessed at times considerable nuisance value, and they helped, as Catherine II had hoped they would, to divert a certain amount of Turkey's naval strength from the struggle in the Black Sea to commerce-protection in the Mediterranean; but they never quite justified the expectations which they at times aroused. Nevertheless, their history has more than merely local and temporary interest. It shows how tenaciously the Empress and her advisers clung to the hope of making Russia in some sense a Mediterranean power. It shows how unstable the

¹ The complexity of the position as regards the legal ownership of many of these ships can be seen from the undated lists (signed by Tamara) which presumably reflect the position at the end of the war, in *Arkhiiv Grafov Mordvinovykh*, Vol. I, pp. 548-50.

² There is much correspondence regarding them in *ibid.*, Vol. II, pp. 378-466.

³ *Ibid.* Vol. I, pp. 263-4.

maritime position in the eastern Mediterranean continued to be, and how easily any government with a little money to spend could scrape together a fighting force of a kind from the Greek, Maltese and Italian corsairs who now infested the Levant and the Archipelago. It shows how difficult, indeed impossible, it had become for any state to employ privateers (and in this case privateers using bases hundreds of miles from the country to which they owed theoretical allegiance) as an effective substitute for a well-disciplined and adequately led navy. From these points of view, as well as for its intrinsic interest, this exotic and somewhat obscure episode in the history of naval warfare perhaps deserves more attention than has hitherto been given it.

THE ACTION BETWEEN THE *SHANNON* AND THE *CHESAPEAKE*

By *D. L. Dennis*

THE accounts of this action contain discrepancies—not to say impossibilities—that somewhat strangely have escaped the notice of the seaman-historians who have studied it, such as Fenimore Cooper, Jurien de la Gravière and Admiral Mahan. Briefly the circumstances of the action are given as follows:

The United States frigate *Chesapeake* had returned to Boston from a cruise on 9 April 1813. Her captain and first lieutenant being ill, the command of the ship was assumed by Captain James Lawrence on 20 May. Until 25 May Boston had been blockaded by two British frigates but upon one of these departing, the frigate *Shannon*, Captain Broke, was left alone to maintain the blockade. Both the *Chesapeake* and *Shannon* were 18-pounder frigates of very nearly equal force, but the *Chesapeake* had a larger crew—381 to 330. Captain Lawrence accordingly took advantage of the circumstance to put to sea.¹

At noon, 1 June 1813, the *Chesapeake* got under way with a south-westerly² wind and passed Boston Light at 1 p.m. Cooper terms it a 'pleasant breeze' at the time of sailing and says it strengthened late in the afternoon. At 5.10 p.m. Boston Light bore west distant six leagues from the *Shannon*, hence the *Chesapeake* had been over 4 hours in sailing less

1 Captain Lawrence had the mission to cruise off the Gulf of St Lawrence to intercept supplies and reinforcements destined for Canada. Admiral Mahan censures his determination to sail, holding that his mission was too important to be jeopardized by an action with the *Shannon*. It is, however, somewhat difficult to see how Captain Lawrence could have expected to accomplish his mission *except* by engaging the *Shannon*. It was certain that the *Shannon* would soon be reinforced, so if he had not profited by her isolation he would have lost all chance of fighting his way out, the *Chesapeake* being the only U.S. frigate in port ready for sea. Had he waited to elude the blockade he would probably have had to await the winter gales, by which time everything would already have reached Canada, and the St Lawrence being frozen, there would have been nothing to intercept. Once the blockade had become effective I do not think a frigate got out of Boston from April till December. The *Constitution* was undergoing a large repair in Boston at the time of the action and did not get to sea until December, although she had been ready for three months. The following year she again did not sail from Boston until December after having been blockaded for precisely eight months. Very likely Captain Lawrence hoped to take the *Shannon* without his own ship sustaining much injury—something the previous actions with the British appeared to justify.

2 According to Cooper, *Naval History of the United States*. James, the contemporary British historian, terms it west by north.

than 18 miles with a leading wind, during most of which time she had been under all possible sail; hence the wind must have been about 3 on the Beaufort scale during her approach. At 4.50 p.m. the *Chesapeake* took in her studding sails and light sails and sent down her royal yards, and at 5.25 hauled up her foresail and reduced her canvas to whole top-sails and jib. Meanwhile the *Shannon* had been by the wind on the starboard tack and, when the action began she was under single-reefed topsails and jib with the main top sail shivering. Whether this sail was subsequently filled is not stated.

At 5.40 p.m. the *Chesapeake* hauled her wind astern and to windward of the *Shannon*. According to James (*Naval History of Great Britain*, Vol. VI, p. 201) she simultaneously squared her main yard. At 5.50¹ when the *Chesapeake's* bow was overlapping the *Shannon's* stern, the action began, at fifty yards distance, by the discharge of the latter's aftermost maindeck gun.

At 5.53, judging that his ship had too much way, Captain Lawrence gave her a pilot's luff²—a measure reducing her way but tending to cause his forward guns not to bear, if he were then abreast the *Shannon*. At some time prior to 5.56 the *Shannon* kept away a point or two. The pilot's luff under the circumstances could not have lasted more than a moment, afterward the *Chesapeake* continued to forge ahead of the *Shannon*, by the wind and probably with part of her guns not bearing. Finally and almost simultaneously the *Chesapeake's* foretopsail tie was cut, the yard coming down on the lifts, her jib sheet was cut, and the brails being cut, the spanker blew out against the mizzen rigging. Under the resulting unbalanced sail spread she rotated at 5.56 to the wind, lost way and then gathered stern way, lying 'in irons'. When Captain Broke saw the *Chesapeake* come to the wind, he brought his own ship again to the wind, but as soon as he saw that the *Chesapeake* had sternway, he was again intent on making her fall off, shivering the mizzen topsail for this purpose. During the ensuing stern-board the *Chesapeake* received an enfilading fire, from the *Shannon's* after guns into her stern, from her forward guns into her port quarter, her own guns not bearing. Seeing that the ships were going to fall aboard, Captain Lawrence gave the order to call boarders, but the negro bugler (Heaven pardon me if I lapse into racial prejudice!) could first not be found and when found was too frightened to sound the call; apparently few of the men from

¹ The times here given are those given by James and were probably noted by the Captain's clerk of the *Shannon*—such being his battle function.

² To give a ship a pilot's luff (also termed making a half board) was to luff until the sails were shivering; then to right the helm and let the ship advance with everything shaking, until the object proposed had been accomplished or until the ship had materially lost way. The helm was then put up and the sails filled.

the gun-deck ever reached the spar-deck. At 6.00 the *Chesapeake* fouled the *Shannon* not far abaft the latter's forechains (the fluke of the *Shannon*'s waist anchor hooking the quarter of the *Chesapeake*) and the *Chesapeake* was carried by boarding.

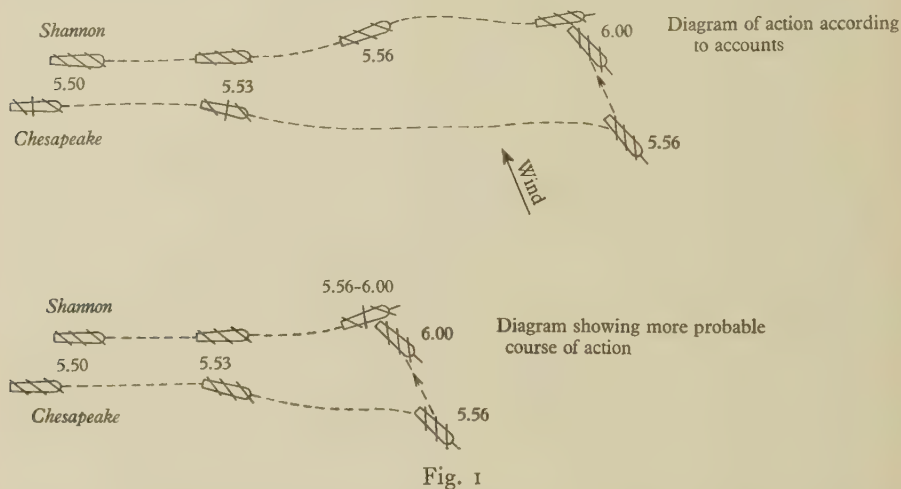


Fig. 1 shows, to scale, the course of the action as above described, assuming that the *Shannon* had a constant speed of $1\frac{1}{2}$ knots and the *Chesapeake* an average speed of $\frac{3}{4}$ knot during her sternboard. It is immediately evident that something is wrong. Not only is there nothing in the accounts to explain how the *Chesapeake* could sail a distance several times greater than that sailed by the *Shannon* between 5.53 and 5.56, but it is positively contradicted by other statements. A midshipman of the *Chesapeake* testified, before the court convened to investigate the loss of the ship, that when she came to the wind she was half a ship's length ahead of the *Shannon*; he could hardly have underestimated the distance by nine-tenths. The fire executed into the stern and quarter of the *Chesapeake* during her sternboard would only have been possible had the *Shannon* been hove-to at a point in the direction of the *Chesapeake*'s drift—and unusually stationary for a sailing ship hove-to at that. Yet it is strange that if she were hove-to no mention of it is found in the accounts.¹ One circumstance hints that she was hove-to; the fact that the *Shannon* shivered her mizzen topsail. Had she way, a touch of the helm would have produced the small rotation desired by Captain Broke; were she hove-to only a change in the sail trim displacing the centre of effort could accomplish it.

¹ James evidently felt the discrepancy but unfortunately instead of showing his usual diligence to learn what actually occurred he got round the difficulty by making the *Chesapeake* (in his diagram) after coming to the wind continue to advance abreast the *Shannon* but broadside on.

These discrepancies commence before the first cannon shot. Had the *Chesapeake*'s mainyard been squared at 5.40 (or even at 5.50) she would have been brought to a stop before 5.53 and consequently could not have executed a pilot's luff. (Admiral Mahan says that at some time prior to 5.56 the mainyard was braced up; James—apropos of nothing in particular—says it was square at the end of the action.) It seems probable that the pilot's luff and the keeping away of the *Shannon* prior to 5.56 *did* occur—at least something happened to separate the ships at 5.56 by an amount considerably exceeding the 50 yards separation that existed at 5.50. The coming to the wind of the *Chesapeake* would have slued her stern towards the *Shannon* by about half a ship's length (about 80 feet) and the *Chesapeake* must have lost way almost immediately,¹ yet the sternboard lasted 4 minutes.

James states that a paper was found in the *Chesapeake* showing that she had shipped a crew in April 1811, 'and, as in the American naval service the men enlist for two years. . . the ship would require to be remanned in April 1813'. Then, abruptly passing from the conditional to the indicative, he describes the shipping of the crew at some length, stating—in order to show that the *Chesapeake* had an *élite* crew—that only the primest seamen were selected from the abundant volunteers. It is this very amplification that casts doubt upon his entire statement, for the contemporary letters of American naval officers abound in complaints of the extreme difficulty in obtaining recruits—the men preferring the privateers. And this difficulty would probably have peculiarly existed for the *Chesapeake*, whose already melancholy history had made her dreaded as an 'unlucky ship'.

Early American historians say nothing of the crew being newly shipped. Fenimore Cooper, who having been a naval officer before he was a novelist and as such must have had the 'service traditions' at his finger tips, plainly does not believe it had been, for he says (*op. cit.*, Vol. II, pp. 160 and 164): '... some disaffection existed among the crew on account of the prize money of the last cruise, which was still unpaid',² and 'The people of the *Chesapeake* . . . were not collected nor commanded in the mode *in which*

1 Had the *Chesapeake* advanced far enough to bring the wind ahead (an impossibility anyway under the circumstances) she would have inevitably paid off to starboard. For the headyards being braced by the port braces the wind pressure on the foretopsail, even though the yard was on the cap, would have had a considerable component directed to starboard, while the maintop-sail would have exerted almost no rotative effect and the mizzen topsail would have been becalmed.

2 Dissatisfaction would appear more correct than 'disaffection' if there be truth in James's statement that the night after the battle the crew of the *Chesapeake* evinced so marked a disposition to attempt retaking the ship that it was judged prudent to put them in irons.

they had been trained to act.'¹ The article in the *New American Encyclopedia* on the action, unsigned but in the language of a naval officer and written when the traditions of 1812 were yet strong, besides repeating the statement about prize money says: 'The *Chesapeake* had arrived at Boston two months before from a cruise and the men had been much on shore, indulging freely in the dissipations to which sailors under such circumstances are peculiarly prone.' It would have been extremely unusual to have allowed newly shipped men to go on shore since having no pay due to them but, on the contrary, having received three months' advance, they would have been likely to desert, not to speak of the necessity of uninterrupted training for such.

Apparently Jurien de la Gravière—probably inspired by James but in the opposite direction—was the first to treat the rawness and consequent mediocrity of the crew as a fact, and as an ample explanation for the result of the combat. This thesis was adopted by most subsequent American historians, such as Roosevelt and McClay and Admiral Mahan only emancipated himself from this legacy to a degree. The simple fact that, without leaders, under circumstances of peculiar discouragement, and after having lost 40% of its number in 10 minutes, the crew of the *Chesapeake* opposed at least a semblance of resistance to the *Shannon's* boarders is as conclusive of its solidity as it is of the inability of the historians to perceive everything significant about the action. It is somewhat difficult for the reader to decide exactly why these are taking the crew to task. They do not, in so many words, accuse it of cowardice, but they are profoundly dissatisfied with the reception accorded the *Shannon's* boarders, they are gloomily impressed by a lack of 'order' they find existing in the *Chesapeake* at the time of boarding—would they have expected to have found it before the breaches of Badajoz? Without sense of contradiction they lament that the crew was newly assembled and in a mutinous state over the prize-money. Having a very poor opinion of the crew they nevertheless, by implication, have a most superlative opinion of it. For (following in this the court of inquiry) they attribute a disastrous consequence to the circumstances that delayed the summoning of boarders, evidently believing that had the crew been mustered on the quarter-deck more promptly—where it would have constituted a compact target, situated in the most exposed position possible—that it would have been possible to maintain it there and that the result

1 The italics are mine. Cooper, however, says that there was an unusually large number of foreigners and landmen in the crew. Gleaves, the biographer of Captain Lawrence, who examined the ship's rolls, said that 95% of the crew had British or Irish names, and that with the exception of fifteen boys every man was rated ordinary seaman or higher—statements that of course do not conclusively disprove Cooper's.

would have been something other than to render the triumph of the *Shannon* more certain and less bloody. Holding the *Chesapeake* 'in Chancery', sweeping her decks with an enfilading fire, Captain Broke did not give the order to call boarders until he saw the *Chesapeake's* men flinching from her quarter-deck guns. Had he been obliged to defer the order for a moment or two to achieve this result, what difference would it have made save to have increased the *Chesapeake's* casualties? Since one crew had lost 40% and had every cause for despair, and the other had lost 25% and had every reason for confidence, the boarding was 'merely presenting the check for payment' as a German military writer brilliantly said of the bayonet advance after the successful fire-fight. Already critical by 5.56, the situation of the *Chesapeake* became desperate immediately thereafter; not because the boarders were not assembled more promptly, but because nothing was done to pay the ship off, to deprive the *Shannon* of her enfilading fire and to cause the guns of the *Chesapeake* to bear.

The *Chesapeake's* crew is also accused of lacking skill in gunnery. 'Beyond question' says Theodore Roosevelt (Clowe's, *The Royal Navy*, Vol. VI), 'Broke's men were far more skilful in the handling of the guns.' On the contrary, this statement seems as contestable as a great many of the writer's other ones. Lieutenant Budd, who commanded the forward division (of three) of the *Chesapeake's* maindeck guns, testified before the court that his guns were only able to fire three rounds apiece before they ceased to bear. It is questionable if any of the waist division could have fired more; they began later and none could have fired after 5.56. Some of the after division and quarter-deck guns could not have fired more than twice.¹ The *Shannon's* aftermost guns fired from 5.50 until the *Chesapeake* was so close that they could no longer bear—perhaps for 8 minutes. The other guns began successively later, but continued their fire later—some until boarders were called. Her guns must have averaged not much less than 5 rounds, even assuming a rate of fire considerably slower than the shot per 100 seconds warranted by Admiral Jervis.² Yet although the *Shannon* was firing on a more densely populated target and had for several minutes the advantage of an enfilading fire and of firing without being fired upon, her loss was 56% of that of the *Chesapeake*.

The absurdity of stating that the *Chesapeake's* crew had not been carefully trained in gunnery is rendered manifest by comparing the effect of

¹ Probably some of the after guns bore on the extreme head of the *Shannon* just before the ships fell aboard for it is stated that at this moment her jib stay was cut.

² In the combat between the confederate States sloop *Alabama* and the U.S. sloop *Kearsarge* the latter averaged almost exactly one shot per gun in 2 minutes, and her fire was said to have been very deliberate and carefully aimed.

her fire with that of ships whose crews, one may suspect, were untrained. In 1810 the French frigate the *Néréide*, of about the force of the *Chesapeake*, cannonaded the British brig-sloop *Avon* for 55 minutes, weather not stated but since it was January in the Caribbean, not improbably blowing rather fresh. The *Avon* lost nine men, was leaking and much cut up aloft although she lost no spars. In September 1814 this same *Avon* was sunk by the U.S. sloop *Wasp* in 42 minutes—again it was blowing rather fresh. The *Wasp* sustained three casualties and no significant material damage, yet the range was so short that one of the *Wasp*'s casualties was burned by a wad.

One can go even further. It is likely that in gunnery (and very likely in other respects) the *Shannon* would have been an exceptional ship in *any* navy. I doubt if another example of loss being inflicted with such rapidity as by her can be found in the naval history from 1793 to 1815, not even by American ships reputed to be in the very peak of efficiency. Yet it was precisely the maligned *Chesapeake* that, to say the least, cut no sorry figure beside her. All but the name of Captain Evans, Captain Lawrence's predecessor, has disappeared from history; one wonders whether he may have been another Broke. Nor is the statement true that under the conditions little skill was necessary to inflict loss. Shortly before the *Chesapeake-Shannon* action an indecisive one occurred between the British frigate *Amelia* and the French frigate *Aréthuse*. It lasted over three hours, beginning at pistol shot and, except towards the end when the vessels were drifting apart, continued at short range; for two protracted intervals the ships were in contact and 'rammers were snatched from opposing hands'. The action took place by tropical moonlight, 'the wind was very light, the sea almost like a mill pond'. The *Aréthuse* lost 105 men, the *Amelia* 142. The *Aréthuse*, a vessel of only a little more than half the force of the celebrated U.S. frigate *Constitution*, inflicted (it is true in about one-half longer time) more loss than the latter did on the British frigate *Java*. But there is a difference in inflicting 142 casualties in 3 hours and 15 minutes and inflicting 146 in 10 minutes as the *Shannon* did, and the circumstance conveys an idea of the extremely formidable character of the *Shannon*.

A third reproach made against the *Chesapeake*'s crew is that it was incapable of handling the ship. This is made (with great emphasis) by Roosevelt and (with less) by Mahan. It is surprising to meet such a statement on the part of the latter, the first two years of whose nautical career was passed in a sailing ship, and most of the rest of it was passed in vessels with sail power. Since there is no evidence that any attempt was made to manoeuvre the ship during the action, the charge seems to be gratuitous. The crew got the ship under way, took in sail, and sent down the royal yards—tasks far more exacting than the more prompt orientation of the

sails. As far as the crew was concerned the latter only demanded that the men know the posts assigned them, that at least some understood the orders they received, and that they could cast off some ropes and haul on others. In a man-of-war the lubbers, who would have been useless aloft, were called waisters and this very hauling was their function—one considered demanding so little skill that Herman Melville said: ‘He who is good enough for nothing else is good enough for a waister.’ Had the *Chesapeake* a newly shipped crew it could readily have been that it could not brave exposure to an intense peril and that it was untrained in gunnery, but it could hardly be that it was so totally composed of lubbers as to be incapable of promptly altering the trim of the sails in a vessel under very short canvas in a light wind. Were it, then indeed Captain Lawrence were rash, not in taking the ship into action, but in simply taking her to sea; for with such a crew the daily vicissitudes of the sea would have had catastrophic effects.

Perhaps a more real source of inferiority was that all four of the ship’s lieutenants were very young, two being midshipmen acting as lieutenants and these like Captain Lawrence had only been in the ship a few days—a fact suggesting that the midshipmen of the ship were inexperienced. Yet it may be doubted if this influenced the course of the action; nearly all fell before they could have done so for ill or good. But in one curious way that was destined to have disastrous consequences, the preparation for action was evidently inadequate. At that time and in a ship of the size of the *Chesapeake* the fore and main topsail yards had ordinarily two ties, each entirely independent of the other, so that the cutting of one would not cause the yard to fall. Moreover, in preparation for action it was customary to stopper the ties in such a manner that unless cut very close to the masthead they would continue to support the yards, and also to chain sling the yards to afford them a support quite independent of the ties. Evidently these precautions had been neglected in the *Chesapeake*.

It would seem then that the conception of a foolhardy man seeking combat with a thoroughly inefficient ship only existed in the mind of Jurien and those of his converts. It is probable that Captain Lawrence knew better than his critics what kind of a crew he had—an experienced seaman such as he could tell, at a glance, not only whether a man was a sailor or not, but what *kind* of a sailor he was. He had, moreover, the officers who had been in the ship on her previous cruise to inform him, and Commodore Bainbridge, the senior officer in the port, seems not to have opposed his decision to sail. Even were it certain that the crew was new, the point would have had no bearing, since it acted like a highly trained one. Yet, for reasons unperceived by the historians, it is difficult not to attribute to Captain Lawrence a considerable responsibility for the loss of the ship.

It seems incredible that from about 5.53 onwards the *Chesapeake* should have been permitted to wander on, by the wind, ahead of the *Shannon*, with part of her guns not bearing, when simply keeping away would have caused them to bear.¹ Yet this seems exactly what happened. Admiral Mahan attributed the cessation of bearing of the guns of Lieutenant Budd's division to the ship coming to the wind at 5.56, but this would mean a slow rate of fire and they probably ceased to bear earlier.² The circumstance that before 5.56 the *Shannon* had kept away indicates that when she did so the *Chesapeake* was ahead; were she ahead it would have been necessary for the *Shannon* to keep away to make her guns continue to bear, were she not ahead, Captain Broke would have had every reason to prevent the ship falling off accidentally. It is evident that Captain Broke had a strong motive for keeping away, for when at 5.56 he brought the *Shannon* to the wind (because when he saw the *Chesapeake* come to the wind he at first thought she was attempting to flee), as soon as he perceived that the *Chesapeake* had sternway, he at once was intent on making his ship fall off again.³ It has been noted that a midshipman of the *Chesapeake* stated that just before she came to the wind she was half a ship's length ahead of the *Shannon*, and the fact that she fouled the *Shannon* close abaft the latter's fore chains indicates that she may have been more. For since the *Chesapeake* had previously been by the wind and since her sternboard would have been parallel to the wind, her sternboard would have made an angle of about ten points with her previous direction, and thus would have had a component opposite to the previous direction as well as one perpendicular to it.⁴

Finally, when ill fortune had inflicted on the *Chesapeake* the injuries

1 A writer (W. K. Post) in the July 1936, *U.S. Naval Institute Proceedings*, holds that it was Captain Lawrence's intention, when he judged the ship had gotten sufficiently ahead, to bear up athwart the *Shannon*'s hawse, entangling her head-booms in the *Chesapeake*'s rigging. But the pilot's luff shows he did not *desire* to get ahead. Moreover, *Steel, Rigging and Seamanship*, 1794, Vol. II, p. 342, states, that to realize this manoeuvre it was imperative that the ship attempting it should be very close ('almost yardarm to yardarm') to windward of her antagonist. Evidently the manoeuvre had to be effected chiefly by a sudden motion of rotation produced mainly by the sails, rather than a combined motion of translation and rotation. The *Chesapeake* was not in this position.

2 See note 1, p.

3 James states that Captain Broke's motive for shivering the mizzen topsail was to give the *Shannon*'s movement a component in the direction of the *Chesapeake*'s sternboard. But it is inconceivable that the *Shannon* was advancing. Had the *Shannon* continued to stand on after the *Chesapeake* came to the wind, the latter's sternboard would have carried her across the *Shannon*'s wake and it would have been the *Shannon*'s guns that did not bear and the *Chesapeake* that had a raking fire—a condition we may safely assume Captain Broke would not have caused to arise.

4 According to James the *Chesapeake* was paying off during her sternboard, in which case its component opposite to her previous direction would have been considerable. But it is difficult to understand how a ship with such a preponderance of after sail could pay off. The moment of the wind pressure about her centre of rotation that brought her to the wind would keep her there.

precisely of a nature to be most disastrous in the situation she had been permitted to get into relative to the *Shannon*, and she came to the wind, there is no mention of anything being done to pay her off until Lieutenant Budd, learning that the command of the ship had devolved upon himself, came upon the forecastle. Evidently taking in the situation instantly he ordered the foresail (hanging loose in its gear) set.¹ Whether this order received a commencement of execution is not stated. Apparently Lieutenant Budd and the *Shannon*'s boarders reached the forecastle almost simultaneously. James says that the foresail was floating in the wind at the close of the action, but he attributes this to the gear having been cut. It is possible, of course, that the *Chesapeake*'s gear had been so cut that *nothing* was possible, but since setting the foresail was an obvious one of the remedial steps that could have been taken (such as hauling the jib sheet to windward if *both* jib sheets had not been cut, setting the foretopmost staysail, sheet to windward, bracing abox the head yards and setting the foresail lee tack boarded, shivering the mizzen topsail, etc.)—since *it* had not been attempted it is strongly probable that *nothing* had been attempted. Captain Lawrence had been wounded early in the action, and although he retained command until he received a second and mortal wound just before the ships fell aboard, his faculties may have been impaired by the first one—which was presumably a severe one as it is stated he had to support himself on the binnacle. And there was no one on the spardeck to second him, every officer above the rank of midshipman (including the marine officer and the boatswain) had fallen early in the action—‘at the first few discharges’ according to Cooper. Moreover, the discovery that he had caught a Tartar when he not improbably may have expected a facile success, may have had a paralysing effect.

To take a ship such as the *Shannon* with one of equal force would no doubt have been a matter of no small difficulty. Yet the *Chesapeake* seems to have been a ship worthy of attempting it, and had she been better handled—had her men had a chance to fire as many shot as the *Shannon*'s had—it is evidently possible that she may have succeeded. Even as matters went, had she been promptly boxed off after 5.56 the *Shannon*'s loss would have been greatly increased and there would have been a chance that the action might have ended, like that between the *Amelia* and the *Aréthuse*, by the ships separating each with half her crew *hors de combat*. At least it is the height of absurdity to blame the crew for the loss of the ship, for it had done all that could have been expected from it.

¹ Admiral Mahan says that Lieutenant Budd's intention was to shoot the ship clear. But at least the primary effect of setting the foresail would not have been this; it would have tended to make the ship rotate about her point of contact with the *Shannon* as centre.

MANNING THE ROYAL NAVY: THE REFORM OF THE RECRUITING SYSTEM, 1852-1862

By R. Taylor

SECOND PART

V

WHEN peace came the government—now Palmerston's with Sir Charles Wood as First Lord—had at the same time to cut the swollen war navy to peace strength and prepare for future war by building reserves. On the constitution of the nation's reserves Wood's views paralleled those of the 'manning' committee and Graham.

Wood's first concern was to reform the coastguard. Openly avowed now as a naval reserve, the force was transferred from the Board of Customs to the Admiralty, its permitted maximum raised to 10,000 men, and the coast divided into eleven districts, in each of which a guardship was to be stationed at a convenient port as a district headquarters and training ship. On the books of these ships were placed all the young and active ex-naval men of the coastguard, who were termed 'fleet men'. Entry was restricted in 1856 to naval men of the highest character under 37 years of age, who had seven years' service with good conduct in man's rating. In order to handpick his reservists Wood took the risks of a slow expansion; but by 1859 there were still only about 5600 all-told, though admittedly they were a fine body of men, well trained and set for instant action.

Besides his coastguardsmen the captain of each district had the naval coast volunteers to train. Though enrolments had been accepted during the war, training began only in the spring of 1857, consisting, like the coastguardsmen's, of seamanship practices—shifting spars, laying out anchors, shifting topmasts, boat exercises, and all kinds of rigging, knotting, and splicing—and gunnery, musket and cutlass exercises. But training soon revealed the weakness of these men as reservists for the navy. Gunnery reports were uniformly favourable, but few of them shone as seamen. In spite of their youth (most were between 22 and 34 years of age) many were heavy, inactive fellows, of whom perhaps one-third might go aloft; Liverpool men alone, it seemed, were keen to do so, although Norfolk recruits, of lighter build than most, promised well as topmen. It must be remembered,

too, that the force was specifically for home-water service, and as it stood, therefore, could not be dove-tailed into the general reserve organization. For what they were worth, there were about 7000 trained coast volunteers by the end of 1858—a poor response, really, since there were some 200,000 fishermen round our coasts.

The third reserve in Wood's scheme consisted of short-service pensioners. A sound idea—to train men in the navy and transfer them to the reserve—it failed because the seamen did not like it. Most men with ten or fifteen years' service preferred to serve out twenty or twenty-one years for the larger, long-service pension, and those who did leave chose the much more attractive service in the coastguard or left the navy altogether. By July 1858 only 175 seamen had accepted a short-service pension.

In the little force of seamen riggers in the dockyards Wood made no significant change. Of the 475 possible there were in 1858 only about 300 of these men, owing, it was said, to the scarcity of ships 'paying off', the superior attractions of coastguard service, and the seaman's dislike for what he thought a labourer's work.

Both Wood, and Graham before him, made much of the marines as a reserve. To administrators who had spent months trying to enlist the elusive seaman the appeal of the marine was almost irresistible: he could be paraded at will in front of his dockyard barrack and marched on board. But his limitations had to be kept in mind: though highly disciplined, a splendid gunner, and able to do many of the seaman's duties on deck, he was complementary to, and not a substitute for, the seaman as long as ships used sails. In July 1858 there were 6000 in barracks, of whom it was held that 4000 could be considered as in reserve.

On the 1853 totals of under 3000 in reserve the numbers by 1858 were a marked improvement. Of these 17,000, however, only the 6000 seamen from the navy could 'sail and fight' a ship to any part of the world, though it is true that the 4000 marines would be an essential part of those crews; the 7000 coast volunteers were at best but poor seamen, more useful only than the raw landsmen of the Russian War. Britain's reserves were still woefully inadequate.

Scarcely healthier in these years was the condition of the 'regular' navy. The process of cutting down to peace strength proved no easy task, because the Admiralty, in their anxiety to get men in the war, had enlisted far too many on continuous-service terms, and thereby virtually guaranteed them a livelihood for ten years. Eventually, in May 1857, all petty officers, seamen, and boys on ships in the home ports or arriving home in England were invited to take their discharge, which continuous-service men—the most significant point—thus would secure without purchase before their

time expired. Of those on non-continuous-service terms only petty officers and A.B.'s were allowed to put down their names for re-entry, while all continuous-service men of bad character and poor physique, together with all continuous-service boys unlikely to make good seamen, were also discharged. This order caused great bitterness. Not only did naval officers resent what amounted to a breach of faith with the continuous-service men (the volatile temperament of many a one led him to accept his ticket and regret it next minute), but Jack himself still appeared in his own eyes as the plaything of an Admiralty that casually discarded him as it had always done; a new system, a new deal?—What eye-wash! And then—how ironical it was—events began to foreshadow a fresh expansion of the navy.

These were uneasy years. Admittedly, neither the China War nor the Indian Mutiny seemed likely at first to lead to any substantial demand for extra ships or men. The idea of maintaining a Channel fleet was temporarily abandoned, and the ships sent to China waters as part of an Anglo-French expedition. But soon a naval squadron became indispensable in the Indian Ocean, and a growing suspicion of French intentions drew attention to our defencelessness in Home waters. Not only was France building steam ships almost as rapidly as Britain, but she was going ahead fast with the revolution in naval architecture that resulted in the sea-going ironclad. Napoleon's interest in strengthening maritime powers of the second rank did not pass unnoticed and he himself admitted to Palmerston in 1857 that a quarrel with England would be popular in France. This growing estrangement was accelerated by the Orsini outrage, once it transpired that Orsini had planned his attack on Napoleon in London and obtained his bombs in Birmingham. Though both Napoleon and Palmerston handled the affair with good sense, Palmerston was defeated on the issue and resigned in February 1858.

The new government (Derby's second) announced its intention to hasten the creation of a Channel fleet in spite of the China War. But to hurry was as impossible as ever. In April the *Renown* had been four months at Spithead waiting for seamen, and the *Marlborough* at Portsmouth and the *Euryalus* at Devonport were in the same plight. Energetic action by the new First Lord, Sir John Pakington, did do something to help, but when Sir Charles Napier (who had never ceased to grumble since the Russian War) moved for an independent enquiry into manning the government accepted the motion. After all, despite the recent reforms there lay the ships useless for lack of men; and, besides, Pakington himself was convinced that no reserve organization could be successful that did not call in the sailors of the merchant navy. Consisting of men with great naval and

mercantile experience, the Royal Commission on Manning was appointed in June 1858, and reported in February 1859.¹

VI

For the navy's organization in peace the chief importance of the commission was its support for the system of continuous service. Although in 1858 many an old hand was still clinging to the old method, and though the new had not so far had a really fair chance, some two-thirds of the navy were on the new terms, and naval officers were pretty well agreed that continuous service was giving permanency and certainty where before there was neither, ensuring, as it did, the existence of a body of trained seamen available on return from leave for despatch to any ship. Naturally, the system could not of itself find extra seamen at a moment's notice: but it offered prospects of a professional career that the old hand-to-mouth methods never did. Some of the difficulties that had arisen were expected to disappear as more trained boys rose to manhood and the transitional period passed away. Six years later nearly nine-tenths of the navy were continuous-service men, and by the early seventies only a few hundred appear to have been still on the old terms.

Two proposals of the 'manning' committee, neglected hitherto, were further commended by the commission, and acted upon in the next year or two. The first was to provide more training ships for boys—'brig boys', the navy knew, had become the pride of a ship's company by the time they were 21; and the second was to begin to establish a reserve of seamen in the home ports to offset perennial shortages. With such a force in being in the spring of 1859 bounty would have been unnecessary.

In the field of gunnery the 'manning' committee's ideas had borne little fruit. The shortage of volunteers for gunnery training was still most serious, because the science was making great strides, with the new rifled ordnance of Armstrong and Whitworth striving to regain the initiative for offence against defensive iron plates $4\frac{1}{2}$ in. thick. In April 1859 the Admiralty, improving on the commissioners' suggestions, doubled the extra pay of seamen-gunners and allowed them to count five years as six towards their pensions. As this also had little effect, in January 1860 a class of 'trained men', with more pay, was set up, and above them still another, with higher pay still, called 'gunnery instructors'. Though in the long run this reform

¹ In June Derby's government fell, but not before it had carried out some of the commission's recommendations—and taken the unique course of offering a bounty in peacetime in the hope of recruiting seamen quickly for the naval expansion occasioned by the rising fever of Anglo-French rivalry. Derby's successor, Palmerston, took further action on the commission's report.

appears to have been beneficial, the common view of the 1850's that French gunnery training was superior to the British persisted.

The rest of the commission's recommendations for peace manning were concerned with 'serving conditions' in the navy, a region in which their ideas and some earlier Admiralty initiative converged, except on questions of discipline, where—as in 1853—reform again originated with the Admiralty.

The recruit's first naval home was the old, dismasted 'hulk', dirty, cramped, and poorly ventilated, described with truth as a main cause of desertion, the 'crying evil' and 'the very curse of the navy'! Though the commission favoured 'model hulks', like the *Bellerophon*, which had been fitted out in 1856 with every comfort for both men and their wives, the Admiralty preferred to go ahead with the erection of barracks, on which, by way of experiment, a start had been made at Sheerness a few years before. But cheese-paring of naval estimates and a failure to get convicts out of barracks already in existence at Portsmouth both encouraged procrastination: a generation later some hulks were still in use.

To demoralize the recruit still more his early career was one of debt. Often penniless and in rags when he came aboard, his 'slops' (materials before they were made up) cost him three months' wages, and the temptation to exchange them for inferior stuff and receive the difference in cash was great: slop-dealing was a profitable trade in the naval ports. Until, too, he could find 5s. or 10s. for mess utensils he would be unpopular with the old hands who had bought theirs out of a mess fund raised by 'savings' from rations. From April 1859 bedding and mess utensils were issued free—as the hammock had long been—to every new entrant, and to the continuous-service recruit his clothing also.¹ These debts of his were the more demoralizing because the recruit received no pay for weeks, maybe months, after he joined, until, indeed, just before his ship sailed, when he was paid an 'advance' (!) on account of his growing wages, equivalent to about two months' pay. So, unpaid by his employers—for fear he might get drunk or desert—he sank further into debt, while his wife and family often sought parish relief in great distress. Even the continuous-service man's allotment to his wife was sometimes held up between one commission and the next. But the Admiralty were at last taking action, and the commission endorsed it: from the autumn of 1858 monthly payments of wages were to be made to recruits to date from the day they joined, and they could

¹ In 1857, it may be of interest to note, a 'uniform dress' had been introduced, but until this reform every seaman had to pay for it. The standard dress not only safeguarded the sailor from the stylistic whims of successive captains, but manifested to the world at large the existence of a 'standing navy'.

'allot' immediately they were accepted. But not all the misery of seamen's wives lay at the Admiralty door: the man himself was often at fault. Until 1854 allotments could be made only to wives and near relatives, but in that year Graham, recognizing how frequently 'girls of the town' became sisters for the purpose of the transaction, allowed the seaman to allot to whom he pleased. What had been covert now became open: owners of shop-shops, innkeepers, money-lenders, popular prostitutes, and unfaithful wives of other seamen—all arrived at the pay-office with as many as twenty tickets, and they had to be paid. On the commission's advice the Admiralty in April 1859 restricted allotments to near relatives again, but within two months without explanation reverted to the 'free-for-all'. None the less, it is quite clear that the seaman was slowly becoming a steadier character, many more were marrying than a generation earlier, and the class of woman they chose was better. To remove the slur of debtor from the young recruit was sound policy.

Not only was the naval man of the 1850's in debt: he was also ill-fed. After the 1852 scandal of Goldner's stinking meats, in which offal still containing dung had been found, there does seem to have been an improvement in quality, but in 1858 allowances of both bread and meat were agreed to be well below the best mercantile standards. After his one meat-meal a day, usually about midday, the naval man got nothing until breakfast next day except supper, consisting mainly of tea, chocolate and bread; and if inexperienced youngsters had dipped too deeply into the bread bag his mainstay against hunger had gone. Although the commission proposed to increase both bread and meat by a quarter, the Admiralty increased the bread allowance and instead of more meat provided more sugar. Because seamen saved a proportion of their rations they were not, therefore, as it was sometimes argued, well fed, since they were paid for their 'savings' and so saved hard in order to buy fresh fruit and vegetables when in port. Even though 'savings' prices were now reduced to discourage seamen from saving food, they still needed at least $1\frac{1}{2}$ lb. of meat as well as $1\frac{1}{4}$ lb. of bread every day.

Nevertheless, in ordinary times the navy managed to get its men. It was otherwise with petty officers. The failure of the 1853 reforms to train good material for the posts is probably due to the fluctuations of naval strength in the period: the entry of raw levies for the Russian War with no counterbalancing supply of trained merchant seamen into the higher ratings; the loss of at least some good men in the post-war reductions; and in the expansion of 1859 the influx again of poor material with once more little response from the mercantile A.B. In both China and Channel fleets there were many petty-officer vacancies. Although after 1857 a seaman promoted

to petty officer no longer lost the pay for good-conduct stripes he had earned as seaman, he received no extra pay for any stripes earned in the new rating; and thus the man who rose quickly in the service was penalized. On the commission's advice good-conduct stripes from April 1859 onwards carried the same pay for seaman and petty officer. When naval strength became more constant in the 1860's, continuous service seems to have found the right men, and in 1875 one captain could even speak of a superfluity of petty officers.

To encourage petty officers to accept the warrant a gratuity was offered in 1858 and increased in 1861. But the warrant officer was rightly disgruntled; he had to serve—often on the lower, harbour-service pay—until he was found unfit, when the Admiralty decided the amount of his pension; since 1844 he had been ranked below cadet and midshipman, despite a heavy increase in his responsibilities—the boatswain had more and heavier stores in his care, while the armament revolution had more than doubled those for which the gunner was responsible; and the service neither paid him enough to provide an annuity for his wife nor gave his widow a pension. On the commission's suggestion warrant officers were once more ranked next below second masters, in 1860 pensions to their widows were restored, they were allowed to retire at the age of 60, and the next year standardized pension scales were promulgated. (No W.O. seems to have been commissioned for gallantry in the period.)

Though the shortage of petty and warrant officers could not fail to be detrimental to discipline, taken by and large discipline was improving. Good-conduct badges, reductions in grog, and the 1853 reforms had all made for better behaviour, and morale in the Black Sea, in Indian and in China waters seems to have been high. The commission recommended no change. But with the introduction of many new recruits in 1859 and 1860 discipline inevitably declined. In July refusal of extra leave led to 'shot-rolling' in the *Liffey* and the *Hero*, and at Christmas a *teetotaller* in the *Orion*, celebrating the festival by means of liquor smuggled aboard, was the ringleader of shot-throwing by some of her crew, whom petty officers failed to report. Some captains, too, were said to be reluctant to punish as they should for fear of Admiralty censure, and the Admiralty itself was accused of pandering to public opinion, which was becoming more sensitive on matters of discipline; for some time Mr William Williams, M.P., had been campaigning for the abolition of corporal punishment.

In December 1859 important reforms began with an Admiralty order to the fleet that put the 'cat' one stage nearer the maritime museum. All seamen (and marines) with 'good' characters and all recruits for navy or reserves were placed in a first class exempt from flogging except by court-

martial sentence. A serious offence could lead to degradation to the second class, in which, even then, no man was to be liable to the 'gratings' without a court martial, except for ten grave breaches of discipline specified in the order. Twelve months' good conduct restored a man to the first class. In 1860 (by the Naval Discipline Act) offences for which a death sentence was permissible were reduced from twenty-two to seventeen, and those for which it was compulsory from ten to two, treason and murder only. A captain was also now compelled to await a report from his officers before awarding corporal punishment—already the practice in good ships—and his power of imprisonment was limited to three months. Thus there was rounded off half a century of growing supervision of captains' judgements, increasing restrictions on his absolute power, and reform of minor punishments—all inspired by the conviction of a gentler age that man, even the seaman, needed appropriate, strong correction for his offences rather than hellish retribution.

Beneath these many improvements there lay the interest of the Victorian age in the individual, but in the commission's ideas of greater import than sentiment was the realization that the navy still could not live of its own, that it must still pay court to the merchant seaman. Yet much had been done in ten years: that the navy of the 1860's offered a more assured career in a permanent force of the Crown, with better opportunities for promotion, better pay, better conditions of service, and a less brutal discipline is the measure of a decade of reform.

VII

The number of extra men the navy would need for war was a subject of pretty general agreement amongst naval officers in 1858. Since, 'steam' and 'sail', the 151 vessels afloat would have to be increased to 370 for maritime war in Europe, about 60,000 more men would be needed, of whom some 35,000 to 40,000 would have to be seamen: 20,000 of these, gunnery-trained, in addition to the coastguard, would be required at a moment's notice, and all of them within a year.¹

Like the 'manning' committee, the commission reserved compulsory methods for the last ditch; but their examination of them is also the swan-song of the old impressment. Shipping masters from all the great mercantile ports were convinced that at the very least the seaman's hostility would endanger social order, and the superintendent of the Peninsular and Oriental Steam Navigation Company foresaw rebellion in every seaport town, where

¹ If America also were an enemy, the war establishment of about 115,000, it was widely held, would have to be radically larger, perhaps 170,000 men.

men would burn, destroy and even die rather than submit. But humanity had been joined by science to oust the old gang, for trained reservists were now no less vital than shell-guns and boilers. Other compulsory methods fell before these or similar reasons. Despite the conviction of many naval officers that no system of voluntary reserves would ever have enough trained men ready quickly enough, the commissioners set themselves to find 60,000 that way. When existing reserves were exploited to the full, they calculated, there would be a deficiency of some 20,000 to 30,000 seamen. These the old nursery of seamen alone could supply.

Nearly a decade of free trade had shown the merchant navy to be riding the storm. Competition was certainly severe, but British resources and energy, and the inception of the age of iron ship-building saw her through. Agreed, a mercantile depression followed the Russian War, but it did not spell ruin. Nor had the repeal of the 'manning clauses' brought the expected flood of foreign seamen: certainly the proportion of foreign to British in 1857 was double that of 1852, but it was still only 8.9! Although 44,000 of the merchant navy were engaged on the long voyages round the Cape of Good Hope and the Horn; on the coasting, home, Mediterranean, and Atlantic voyages north of the line there were 74,000, consisting of about 17,000 mates, 4000 petty officers, 44,000 'seamen' (probably A.B.'s by mercantile standards), and 8000 ordinary seamen. Most of them were in their prime: 42% were between 19 and 25 years of age, nearly 75% were under 30, and only 7000 over 40.

Here, then, in these short-voyage trades, bringing men home at least three or four times a year, lay the raw material of a reserve. The registrar-general of seamen, J. H. Brown (now Commander)—who was sure 20,000 would volunteer—laid before the commission a scheme,¹ which was warmly supported not only by mercantile officials, ranging from the chairman of the Board of Customs to the shipping masters of nearly twenty commercial ports, but by many naval officers as well, including Commodore Eden of the coastguard, whose duty it would be to train the volunteers. Derby's government had just decided to act on the commission's recommendation of Brown's plan when it fell, and it was Palmerston who in August 1859 saw the Royal Naval Reserve into the statute book.

Quality was to be the key-note of the new force. Shipping masters were to select suitable candidates and pass them to the local coastguard officer

¹ The scheme was much more than a mere exploitation of the merchant navy: it comprised the training of boys for both mercantile service and reserve, the formation in the meantime of a reserve from grown seamen, pensions to worn-out members of the reserve, and a proposal to allow all seamen, merchant and naval alike, to contribute to a general seamen's fund. Nothing came of either the boys' training or the fund, mainly owing, it would seem, to the expense of the reserve, which by 1865 was costing all the £200,000 originally estimated for the entire scheme.

for approval. Membership was restricted to seamen with five years' sea service in the last ten, with one year at least as A.B., and volunteers must be British, thoroughly fit, below the age of 35 (up to 40 for 1860 only), and if possible of fixed residence, personally known to shipping masters, and returning to port at frequent intervals. The reservist had to report to the shipping master once every six months or obtain special leave of absence for a longer voyage; and details of every voyage, except very short ones—in Channel steamers, for instance—had to be given to the shipping office. (Offices did not ordinarily handle coasting and home-trade voyages.) Annual training was to consist of twenty-eight days (divisible at will into weekly periods) in ship or hulk or at a shore battery under the local coast-guard commander, who was ordered to 'conciliate the feelings' of these more casual sailors. On completing his drill, during which he was paid at naval rates, the reservist became eligible for his retaining fee of £6 a year, to be paid by shipping masters to the man himself in quarterly instalments within the British Isles. Enlisted initially for five years' reserve service, the recruit, in order to qualify for a State pension of at least £12 at 60 years of age, had to do fifteen years on the reserve if he was over 30 when he joined or twenty years if he joined before he was 30. To discourage reservists from joining foreign services, pensions, like retainers, were payable only to the men in person within the British Isles.

The reserve was to be called out by Royal proclamation only in 'sudden emergency'. Naval service was initially for three years, which might be extended to five with extra pay. In pay, allowances, victuals and the like, reservists were to be treated as continuous-service men, with the same prospects of promotion, and retaining fees stopped when naval pay began. Route lists were prepared and the railways asked to co-operate. The king-post of the whole scheme was Commander Brown, who had to keep a register of reservists and their movements. Of the 20,000 he expected to join, Brown thought that in emergency a third would be available in about a week, another third in a month, and most of the rest in two months.

Although the ground had been well prepared by placards, notices, and even booklets explaining the reserve, when entries were invited in January 1860 the response was negligible. The merchant sailor sensed a dose of the old naval medicine, and many thought it a trick to kidnap them for China service. Long and anxious debate in parliament sought to explain the contretemps: suspicion of the handsome terms offered, and of an Admiralty whose methods of reducing naval strength in 1857 still rankled; the seaman's doubt about the nature of the emergency in which he could be called out; the regulations, said to display a profound mistrust of the

merchant seaman; the shortage of good A.B.'s, especially in the coasting trade, badly hit by both screw steamer and railway; the seaman's continuing dislike of the still parvenu shipping masters, set up only ten years before; and his hatred of the naval officer awaiting him not far away.

The Admiralty reassured the seamen of their good faith, but prejudice died slow. By May numbers had crept up only to 1000, and by the end of the year they were still under 3000. Then came just the spur that was needed: the outburst of national fury at the insult to the *Trent*, stopped on the high seas by an American warship, whose captain was publicly commended by his government. Enrolments rose sharply, and by the spring of 1862 had reached 12,000. In 1865 the R.N.R. topped 17,000, but then began to fall away somewhat as new entries failed to balance those not re-engaging. During the next decade it seems to have fluctuated between 12,000 and 17,000. In 1871 it was argued—pretty convincingly, too—that most of the merchant navy eligible to join the reserve had done so. Argument, too, there was about both the efficiency of the reserve and its effect on the peacetime manning of the navy, of which space forbids consideration here. But there is no doubt that the commission's child did much to dispel the old hatred of the navy from mercantile minds; and it did, after all, induce some 15,000 of the best merchant seamen to pledge their services in war.

Yet however lusty the youthful R.N.R. grew to be, the commission never thought of it as the vanguard of the nation's reserves. Finding the coastguard most efficient and an increase justified on revenue grounds, they proposed that it be raised to 12,000. But in 1858 fears were already abroad that it was drawing men away from continuous service and gunnery school and sapping the higher ratings of the navy. It was clearly to counter the first of these dangers that the qualifying period was restored to ten years in 1859, when the huge naval expansion intensified the risk of bleeding the navy of its best men. Throughout 1859 and 1860 the reserve stood at some 5000–7000 men, and the total had changed little by 1866. A decade later there seem to have been only about 4000 of these first-class seamen. A worse future awaited the short-service reserve. Apart from the seaman's reluctance to accept a short-service pension, the Admiralty seem to have come to regard it as a means of retaining the services of valued men when naval strength was being reduced, and fought shy of encouraging their best to leave once the 1857 reductions ended. The commission allowed for 3000 in their estimates, but numbers continued to hover around 200, and soon dropped out of the periodic calculations of the country's reserves. Disappearing, too, at least as a separate force in computation, was the old handful of seamen-riggers in the dockyards, whom the commission ignored

in their estimates. Although, in all, the commission's proposals totalled 19,000 naval or ex-naval seamen (they included the 4000 they suggested as a reserve in the home ports), in 1865, apart from seamen of the fleet at home, there were probably not more than about 7000 effective men all-told. Thus the backbone of the reserve system remained weak, and many of the higher ratings of war crews were likely to be vacant.

There remain for consideration the coast volunteers and the marines. In the eyes of the commission the coast volunteers were most suitable for coast defence, probably ashore, and they did not expect them to exceed 10,000. In 1863, however, the statutory limit of their services to home waters was removed: but the very action that made them available for 'blue water' operations appears to have terrified these unadventurous men of the small boats, for the force went into steady decline, until by 1871 it was down to about 2000. Two years later it was disbanded and in its place the Royal Naval Artillery Volunteer Reserve set up to provide trained gunners (both officers and men) for service in home waters as well as ashore. But in 1892 this body, too, perished, and it was not until 1903 that its logical successor was created, the Royal Naval Volunteer Reserve, whose members have given such devoted service in the two great wars of our own century alongside their more professional brothers, the R.N.R. of this narrative.

In the formation of any naval force the marine necessarily had a part. Spending about a year ashore between voyages, marines when afloat formed about one-seventh of the crew of a line-of-battle ship. The commission proposed an increase of 5000—no more, because marine efficiency depended on frequent periods at sea and the peace quota in each ship was limited—and they strongly recommended the formation of a reserve of short-service marine pensioners. Of this latter suggestion, however, nothing seems to have come, though 'regular' marines were increased by 2000 in 1859 and 1000 in 1860.

Measured by the yardstick of the contemporary peace navy and the postulates of experienced naval officers the commission's reserve proposals were admirable. But fact never matched theory. As the Royal Naval Reserve gathered strength, the others, as we have seen, either stood still, or declined: from about 17,000 in 1858 total strength rose to about 20,000 in 1860 and 34,000 in 1866, after which it fell away to some 26,000 in 1871.

How serious was the deficiency? Of the 17,000 reservists in 1858 only about 6000 were experienced seamen: in 1871 nearly 20,000 were at least A.B. by mercantile standards. Now, at last, Britain had a sizable reserve of trained seamen—and trained in gunnery as well. The first strain of a war

expansion would have been taken by them, even though they had to be supplemented by the war volunteer, and perhaps—who knows?—the conscript in our twentieth-century sense. Whether many naval officers were right in their belief that compulsion would still be imperative is a question that only maritime war could have answered. But the Britain of the 1860's, if still unable to sustain a long war at sea solely by means of her navy and its voluntary reservists, could certainly no longer be caught unprepared for those 'steam' battles that were expected to mark the outbreak of 'modern' maritime war.

A REWARD FOR THE LONGITUDE

By Professor E. G. R. Taylor

LAST month died Mrs Williams, who had been to me for thirty years in the place of a sister', wrote Dr Johnson in 1783. For the greater number of those years, Mistress Anna Williams, an elderly maiden lady, and blind, had been given an apartment in his house. She was 'of peevish temper', so Boswell said. But the candour and tenderness of a great-hearted man accept the defects of a sister side by side with her qualities. 'Had she had good humour and a prompt elocution (the Doctor wrote to Mrs Thrale) her universal curiosity and comprehensive knowledge would have made her the delight of all that knew her.'

But what had Miss Williams to do with the longitude? It was the great prize offered for its discovery at sea that had brought her a lifetime of misfortune, of dependence upon the charity of others. For her father, Zachariah Williams, had believed the prize of £20,000 to be within his grasp. He had thrown up his profession of a physician in Wales, and had come up to London to proclaim his method and reap the reward. But instead, within ten years he found himself one of the indigent gentlemen given the shelter of the Charterhouse. There he lived for nearly twenty years, only to be expelled when getting on for eighty on account of his intolerable behaviour. And Miss Anna had passed from young womanhood to middle-age, attending on him, begging for him, fighting for him—and going blind. Zachariah lived another six years outside the Charterhouse, 'a kind of stranger in a new world' as he put it. And a few months before his death his friends helped him to lay once more before the public his proposal for solving the longitude. The pamphlet was entitled: '*An Account of an Attempt to ascertain the Longitude at Sea by an exact Theory of the magnetic Needle*. Price 1/-.' The actual writing was done by Dr Johnson, while a page by page Italian translation was added by Johnson's friend Baretti. His friend Dodsley was the printer, and the whole was elegantly produced in the New Year of 1755. At a later date Johnson presented a copy to the Bodleian Library into which he had pasted an obituary notice of his old friend. This describes the Welsh physician as 'indefatigable of Conversation', which we can well believe, and also as 'long known to Philosophers and Seamen for his skill in Magnetism and his proposal to ascertain the Longitude', which is much more doubtful. By seamen he had long been dismissed and forgotten. His literary friends, however, had not

the scientific or practical knowledge to judge his proposal, which was in fact fallacious. The words which Dr Johnson provides for him in this pamphlet perhaps hint at the truth: 'The Great Defect in the Art of Sailing is Ignorance of the Longitude. . . . That Navigation might be at length set free from this Uncertainty, the legislative Power of this Kingdom invited the Industry of Searchers into Nature by a large Reward proposed. . . . By the Splendour of this golden Encouragement many Eyes were dazzled, which Nature never intended to pry into her Secrets. . . among whom whether mine shall be numbered, must be left for the Candour of Posterity: for I, among others, laid aside the Business of my Profession to apply myself to the Study of the Longitude.' And later on we read: 'I stand the single votary of an obsolete science, the scoff of puny pupils of puny philosophers. In this state of dereliction and depression I have bequeathed to posterity the following Table.' The Table referred to, claimed as the very substance of his method, was, however, a mere fragment. It simply gave the past and predicted compass variations (or declinations) at twenty-year intervals between 1680 and 1860 for nine notable cities whose longitudes were known.

Now the first 'philosopher' to scoff at Williams's pretensions had been Sir Isaac Newton himself. The scheme had been referred to him within the last year of his life, and he understandably declined to examine it. But hearing that it assumed a continuing increase in the westward variation of the needle at London, he pronounced it 'visionary'. The writer of the review in *The Gentleman's Magazine* of this 1755 pamphlet pounced on this point and triumphantly declared that Newton had been proved wrong, Williams right, for the variation was still increasing in London. This was so, but a retrograde motion began in 1818, whereas the Table predicted it at still increasing in 1860. After Sir Isaac's pronouncement, others treated Dr Williams's notions (so he says) 'with equal superciliousness' so that he 'withdrew from public notice' and devoted himself to his experiments, until even these became impossible. For he was 'cut off by the blindness of my Daughter from the only assistance I had ever had'. An attempt to cure Anna's blindness by an operation for cataract was made in 1752, when Miss Williams was brought for her greater comfort into Dr Johnson's house. It was very shortly after this that his wife died, and the visitor took up the valued relationship of an elder sister.

The notion of finding the longitude by means of the variation of the compass had recurred at intervals over two centuries, but before examining its history we may perhaps linger a little on the personal history of the blind lady and her father. For Anna in fact had had her moment of triumph which has scarcely been noticed. 'The Author of this *Miscellany*' she wrote

in 1766, when her little poems and essays were printed, 'as she was assisting Mr Grey in his experiments, was the first that observed and notified the emission of the electrical spark from a humane body.' She had, in fact, taken part in the work of a pioneer of electrical discoveries, Stephen Grey.

The circumstances are easily explained. When in September 1729, Dr Zachariah Williams entered the Charterhouse (with a nomination from Sir Robert Walpole), he found Grey already one of the Brethren, in possession of a Chamber there, and actually in the full tide of those experiments on conductors and insulators which in 1731 were to win him the honour of the Fellowship of the Royal Society, and a place, too, in the history of science. The two elderly gentlemen shared their interests and amusements until Grey died in 1736, when the Secretary of the Royal Society was actually at his bedside to take down his latest conclusions. Anna then wrote an Ode to her lost teacher, and in this she said:

No more shall Art thy dext'rous hand require
To break the sleep of elemental fire,
To rouse the pow'rs that actuate Nature's flame,
The flame which first, weak pupil of thy lore
I saw, condemn'd alas! to see no more.

Among the innumerable experiments which Grey had made was one in which he suspended a young boy horizontally from a beam in his Chamber. For this purpose he used two 'swings' of clothes-line, or hair-line as he termed it, which insulated the lad. Electrified at his head, the boy's toes attracted suspended objects. Later a second child was introduced and the charge passed from one to the other with a snapping sound. As the experiments were repeated in the dark, this may have been the occasion when Miss Williams first noticed the spark.

Stephen Grey's death must have meant a great narrowing of interests to Dr Williams and his daughter, for many notable scientists, including Dr Desaguliers and Dr Mortimer, had brought their friends to the Charterhouse to watch the experiments. The Welshman, on the other hand, had nothing new to offer. He clung to his obstinate belief that he had found the secret of the behaviour of the magnetic needle over the whole globe. In 1740 he published a shilling pamphlet, entitled *The Mariners' Compass completed, or the Complement of the Art of Navigation Discover'd and Propos'd*. Here he promised that if it were received 'with suitable and reasonable Encouragement' he would publish his 'Universal Table of the Magnetic Variations'. The phraseology was familiar in his day. The 'Encouragement' must take the form of money gifts, and for this purpose the pamphlet was variously dedicated to the King and the Royal Dukes, to the Commis-

sioners for the Longitude, to the East India Company and to the Royal Society. Five years later he published it again adding a second Part, in this case selling it from his own room, No. 6 in the Charterhouse, as well as from the booksellers. There was besides an additional Dedication to a new First Lord of the Admiralty, from whom he might hope for 'encouragement'. In each part of the booklet there were specimens from his promised great Table, and a hint of 'unerring Principles not yet communicated' which also awaited 'encouragement'. The figures offered were very crude, calculated at best to the nearest quarter of a degree, whereas new observations at sea were now being collected and published to the nearest minute of arc. Continuous observations were also already being made in London, by the instrument-maker George Graham among others, which had revealed the diurnal changes in the magnetic elements. These Williams summarily dismissed as merely due to the use of imperfect needles, while he considered that observations collected from seamens' journals were worthless because carelessly made. He doubtless had in mind the collection of 11,000 observations made by a naval schoolmaster, which were just then being used by the two mathematicians, Mountain and Dodson, for the revision of Halley's pioneer isogonal map which was to be re-published in 1746. That he did keep in touch with current criticism and research is also clear from a paragraph in the pamphlet of 1755, where he remarks 'When I began these studies, no [clock] Movements had yet been made that were not evidently inaccurate and uncertain,' and goes on to predict that 'the mechanical labours which I now hear so loudly bruited' would be equally unsuccessful. The reference is to John Harrison's work which was in fact then nearing its triumphant climax.

At the close of the year 1745, however, the two pamphlets having produced no substantial 'encouragement', Dr Williams declared himself too infirm to leave his chamber and join the rest of the Charterhouse Brethren at the common table. Indeed he presently announced that he could scarcely leave his bed, and that he needed constant attendance. But this, the Master said, he must pay for himself. The small allowance in money and coals which the Rules permitted was given to him, whereupon he maintained that this sum of 6s. was completely inadequate for his needs. As a consequence his daughter indignantly moved in and settled herself in the precincts, refusing point-blank to leave until her father had everything he asked. All provisions and allowances were now withdrawn, and Zachariah was left to die of starvation within the walls of Sutton's famous Charity (or so he said). Letters to the Master remained unanswered, petitions to the Governors brought no relief. Miss Anna even declared her father's wrongs in letters to the Lord Chancellor and the Lord Chief Justice. From the summer of

1746 to May 1748 the battle went on, the pair being presumably supported by friends. But it could only end in one way, for the daughter, now over forty, was becoming increasingly blind. An order for Williams's expulsion for disobedience to the Rules was pronounced, and immediately put into effect. Describing the whole affair in a pamphlet presenting his 'Case' (dated 1749) this self-described 'aged and very infirm poor Brother Pensioner' says that the servants entered No. 6 while he was alone,

in a forlorn condition and helpless. And with loud Clamours and Outrage, in great Haste and Fury, dragged your Suppliant to the Floor from the Bed whereon he lay, whereby he was hurt and bruised; and tore down the Bed and Bedding, and the Doors, the Glass and Window-shutters of all the Windows belonging to his Apartment, and everything that thereto belonged, and carried them away: so that by this Outrage, several valuable and very uncommon Mathematical Instruments, and scarce Books (as also Manuscripts which he designed to have printed) and other writings of great Concernment, of which several of them were disordered, spoiled and destroyed, and others lost, to his irreparable Damage, he being all the while alone and helpless, making no manner of Resistance.

Obstinate till the last, the old man lay on the floor all night and all the next day, until friends from outside fetched him away. As has been told he lived another six years, and was somehow provided for; and from his four pamphlets those first brief years of hope and activity that he spent in scientific London can be reconstructed.

It will be recalled that the establishment of a reward for the longitude was brought about by two 'mathematical practitioners', William Whiston and Humphrey Ditton, alike ardent disciples of Isaac Newton. The former had been designated as his successor to the Lucasian Chair at Cambridge by Sir Isaac, the latter he recommended to a mastership at Christchurch Mathematical School. In 1711 Whiston was expelled from the University for heresy, and came to London where, chatting with Ditton, the idea came to one or the other of using the known velocity of sound for finding the longitude. There might be money in it and, according to a quip of the day, Whiston, 'from being a latitudinarian became a longitudinarian'. The two men imparted their method 'by signal guns on anchored hulks' to the Press and also to Isaac Newton. Had it been in use it might, they said, have prevented the recent tragedy of Sir Cloudesley Shovell's death. Accepting the judgement of all the Masters of the fleet, save one, that he was off Ushant, the admiral shaped course for the Channel and was wrecked on the Scillies. The Government, they said, ought to take the matter in hand. Newton brought Edmund Halley, Roger Cotes and Dr Clarke into consultation, and the four met a Committee of the House of Commons, with Whiston in attendance. Sir Isaac recited the familiar story of the impossibility of finding the longitude at sea. Theoretically it could be found by a perfect time-piece, but this could not be made; or by the occultation of

Jupiter's satellites, but this required a telescope too large to handle at sea; or again by the moon's motions, but they were insufficiently known; possibly also by Mr Ditton's method, but experiment was necessary. Then he sat silent and the bewildered Committee was about to dismiss the whole affair, when Whiston hastily explained that Newton was only being cautious: that he agreed that the signal-gun method would be very useful near the shore where it was most required. Newton obediently echoed his words, and an Act was framed; not, of course, for a reward for Whiston and Ditton (for practical men thought their idea very foolish), but in more general but specific terms. It became law in 1714.

Zachariah Williams pondered over Newton's list and having rejected once and for all any possible time-piece, or any astronomical observations at sea—these were beyond the scope of seamen—he fixed on the magnetic needle as holding the only possibility of success. Assuming (without warrant) 'Nature to be in this as in all other Operations uniform and consistent', he formed a system and came with it to London. His first contact was with John Rowley, the famous instrument-maker, now retired from his shop, and holding the office of Master of Mechanicks to King George I. At Rowley's house Dr Williams demonstrated his System on a globe to an invited audience of gentlemen, and at some later date Francis Hauksbee, the younger, showed his experiments before the Royal Society on a steel terrella, with Dr Mortimer (who became Secretary of the Society) acting as lecturer.

It was natural that he should soon meet Whiston, who had acted as lecturer at some of Hauksbee's experimental courses of Natural Philosophy, and the two men had many conferences and arguments. For just at this time (1719–20) Whiston had put forward a new method for the longitude, namely by the magnetic dipping-needle. Rejecting Halley's famous theory that the earth had four magnetic poles, Whiston assumed a central iron magnetic core, of unequal magnetic strength in different parts, and turning slowly on its own axis from east to west. The dip of the needle towards this core could be computed, and the intersection of lines of equal dip with lines of latitude could give the longitude. Dr Whiston had the courage of his convictions and tested his theory in 1722 by entrusting four enormous dip-needles (hung in gimbals) to four ship's captains. They were to be placed near the 'centre of motion' of the ship, but as might have been expected they gave no consistent results at sea. Zachariah Williams triumphantly reports that in the end Whiston had to admit failure. But he himself never consented to make the same admission.

The circle which Williams had entered included the famous Dr Desaguliers, who had also lectured in his younger days for the Hauksbees, and

he it was who introduced the Welshman to Edmund Halley. Halley was now an elderly man, and had, besides, a tiresomely extensive experience of being asked for testimonials. After considering Williams's proposals for two or three weeks (or rather after keeping his papers for that period) he told him to publish his great Table of magnetic variation at once, when he would benefit mankind. This ambiguous statement was accepted as high praise, and by this time Williams had attracted the backing of a group of what he termed 'subscribers' who put his ideas forward to the Commissioners for the Longitude as a claimant for the monetary prize. In Viscount Torrington (formerly Admiral Sir George Byng) he found so warm a supporter that his proposals (which must have been embodied in a printed paper) were ordered to be submitted to Sir Isaac Newton, accounted the supreme authority of the day. The result has already been told, but on the accession of George II (in the year Newton died), the brilliant amateur scientist Samuel Molyneux became one of the Lords of the Admiralty. He had his own laboratory and astronomical observatory at Kew House, which had been brought to him by his wealthy wife.

Molyneux was asked to undertake the task that Newton had refused. He examined Williams's papers and an accompanying instrument intended to be used with the Tables (which for want of 'encouragement' the inventor does not fully describe). Zachariah noticed that Molyneux was making a pencil sketch of this instrument, and convinced himself it was for the purpose of having a surreptitious copy made by his own workman. Remonstrances and altercations followed (he says), and when Molyneux sensibly demanded that a portion of the Tables should be tested on a trans-Atlantic voyage, this was refused. As it chanced shortly after these incidents Samuel Molyneux suddenly died of a stroke, but the behaviour of the Welsh physician must have finally discouraged his supporters and subscribers, for he soon retired to the Charterhouse. There his history has been told.

That the variation of the compass was related to longitude had been a fixed idea of Sebastian Cabot, whose father had been the first to note that the needle stood as much as two points west in Newfoundland, while it stood a point east in England. Sebastian, like Zachariah Williams, believed he had discovered the secret of the way it varied, and that this secret would make his fortune. He still babbled of it on his death-bed, said Richard Eden who was beside him, 'but I think the old man doted'. Throughout the sixteenth century, however, 'philosophers' like Cardanus and G. B. Porta, for example, believed that the magnetic meridians ran as symmetrically about the globe between the magnetic poles as did the geographical meridians and so gave the longitude. There was merely a change of co-ordinates involved. Guillaume de Nautonnier in 1600-04 drew up

a set of tables on this assumption, which would serve for finding the longitude at sea. But William Barlow, whose magnetic work ran parallel to that of Dr Gilbert, and who was familiar with sea matters, noted that such a scheme was in fact fallacious. It was revived again, but with more elaboration, in 1676 by Henry Bond, who believed (on the strength of one successful prediction) that he could map and allow for the secular shift of the magnetic poles. He published a new set of tables, under the title of *The Longitude Found*, which were to be used with dip needle and azimuth compass. They were soon forgotten. William Whiston and Zachariah Williams came at the end of a long line of deluded men.

Yet a knowledge of the variation of the compass was indeed of immense importance to sailors, not merely for correcting their dead reckoning, but for checking their position at sea on long voyages. The Portuguese pilots made use of it from the outset of their voyage round the Cape to India, and the Masters of the East Indiamen followed their example. Dr Williams had read the *Idea Longitudinis* of Edward Harrison, an officer of the East India Company who was serving during the wars in the Navy. This man had been shocked to find how seldom the azimuth compass was to be seen aboard naval vessels, which meant that their masters and pilots were relying on very rough and ready methods of checking their sailing compasses. And this was in 1696. Halley's observations at sea, and his isometric map of the variation were made only a few years later, and the map was eagerly copied by the Dutch and the French. It is conceivable, indeed, that had officers of Sir Cloudesley Shovell's fleet been able to take precise observations, he and his eight hundred companions need not have died. For there was a difference of as much as a degree in the variation as between his actual and his supposed positions. But there was a storm and any comparison of the needle with the true meridian by the amplitude method was probably impossible. Yet this disaster played its part in stimulating demand for a reward to be offered for the longitude, and the 'perfect time-piece' was the result, making the sailor independent of sun or star, at least for his easting and westing. 'Without sun or star' was a secret that John Dee had hinted at in the reign of Queen Elizabeth, and Stephen Borough, too, reckoned it the miracle of compass and chart that they gave service under an overcast sky. Astronomy was bred in the cloudless desert, where no ship sails.

RECORDS

ISLE OF THANET SHIPPING, 1778 TO 1800

Contributed by M. A. N. Marshall

The port towns of Margate, Ramsgate and Broadstairs were popular health resorts in the late eighteenth century, as they are to-day; but they provided only a few ships for defence in the warfare of that time, though their harbours were good. Margate was a port used chiefly for passage vessels to Ostend and London. Ramsgate supplied a large and safe harbour for the shelter of ships during stormy weather and for them to come to for repair, and ministered largely to the assistance of ships so frequently stranded or wrecked on the Goodwins. Of Ramsgate, it is claimed, in 1787, 'the utility of this Harbour to commercial shipping is obvious and clear to all unprejudiced persons, and especially to men acquainted with the navigation of the Downs; many old seamen and pilots remember the melancholy catastrophe that often attended the shipping in the Downs in blowing weather and hard gales of wind, prior to Ramsgate harbour being brought to its present useful state; for though there were upwards of 70 sail that took shelter in it the late blowing weather, not one of them got the least damage in coming in'. This record includes Sandwich, once so proud in ships, that has buried in time the tragedy of the splendour of its magnificent harbour, in the past the rendezvous for ships of all nations. During the eighteenth century the port had chiefly a hoying trade to London with corn.

The ships here recorded are in the approximate order of date.

MARGATE

Cooper's Fancy. 50 tons 8 (2 and 3 lb.) carriage guns, 6 swivels, 28 crew. Captain, John Rowe, 1780. *Owners:* Captain John Rowe and Cooper Rowe.

A newspaper record of May 1780 appears to relate to *Cooper's Fancy*, or the *Neptune*. 'The . . . privateer of Margate, Rowe, commander, arrived in the Downs yesterday morning and has retaken a sloop from Carron in Scotland for London, in which were six Englishmen that sailed in a row boat from Dunkirk; among whom we hear are some of the men that ran away with the Jackall cutter out of the Downs. They are properly secured on board the guard ship for further examination.'

Neptune. 100 tons, 12 (4 lb.) carriage guns, 12 swivels, square stern, plain head, 40 crew. Sole owner and commander: John Rowe, the elder. 1779.

The ship traded in provisions with Jersey from Margate. A newspaper record of May 1780 states that the 'Neptune privateer of this port, John Rowe, commander, has brought in here the Garde Viz Wagton, Herman Hermandes, from Amsterdam to Nantes, laden with pitch, tar, etc. The above is the first Dutch ship taken in consequence of the late proclamation.'

Further, we hear, in December 1780, that 'yesterday was brought into this port three very valuable Dutch vessels, taken by that active and efficient officer Mr. Cowper who, in the early part of our reprisals on France, captured a French ship with a cargo worth upwards of 6,000 L.'

Then there were the ships which dealt in the corn trade, hoys, up to 100 tons. In August 1781 there was advertised the sale of the 'sloop or hoy', the *Isle of Thanet*, John Pound, master, and described as being 'perfectly adapted to the London corn trade, in which she has been long employed'. The vessel was then lying in Ramsgate Pier. In 1796 and 1797 there was still a corn hoy of this name.

John and Jane. Edward Goatham, master, and John Sackett, owner. The vessel was put up for sale in September 1781, and described as taking in 'corn, goods, and Passengers for London;

sails from Margate on Friday the 26th. instant, and will continue sailing from the above Place every other Friday'.

Good Intent, hoy, was on sale in May 1784, late owner Daniel Peake, employed in the corn trade with London.

New Concorde. Captain John Martin, traded with Corke. 1791.

Somerset, sloop, John Rowe, junior, late master, was on sale in June 1791, was built at Broadstairs, in 1786, 25 tons, and 'has been employed in the corn trade from Margate to London and is well known to be a fast sailing vessel'. She was also a passage boat to Ostend in 1791.

Endeavour, hoy, in 1792, 'sails on Saturdays for London', and Thomas Brooman, hoyman, the owner, 'respectfully informs the inhabitants of the Isle of Thanet, and the public in general, that he has entered into the Hoying Business and hopes to merit their support by his assiduity and care'.

Margate. Captain Goodbourne, a corn hoy going to Chester Quay, in 1796.

But Margate was chiefly a port for passage vessels to Ostend and London, and many of these ships, from 80 to 120 tons, were built at Broadstairs by Mr White, shipbuilder. There were several firms conducting this passage boat business, Olliviers, Hennessys and Murdochs.

John Ollivier was an Ostend merchant, in 1780, with his agent in Margate, Mr Mitchener, at the New Inn. He advertises his vessels as 'fine elegant Passenger Boats, with neutral Bottoms', and 'protected from the Depredations of Privateers'. There was also 'accommodation for gentlemen's carriages and luggage'. The boats sailed every Thursday, or 'if necessary can sail on every tide', and they were equipped in an 'elegant, neat, and suitable manner proper for the Nobility, Ladies, and Gentlemen'. In 1781 there were ten boats plying, and in 1782, 1783, they were still sailing.

Messrs Hennessy and Co. were also Ostend merchants. In 1780 they had three boats, and in 1781 ten boats, from 60 to 70 tons, plying between Margate and Ostend. Their agents were Hooper, Cobb and Hale. These boats were advertised as being 'under the Protection of the Imperial Flag'. In 1781 this firm attracts the attention of their passengers to the fact that 'Margate is by much the nearest and most convenient port now open to the Continent, and from which vessels can sail almost with every wind, a circumstance no other English Port can boast of'.

Pitt, passage boat, Captain Henry Kerwin, was one of Hennessy's, and it 'sailed regularly for Ostend' in 1784.

Key Zerinne, sloop, 50 tons, was also owned by Hennessy, with Captain Henry Kerwin, in 1783, and was built at Dover, and formerly named *Hardwicke*. This vessel was put up for sale in 1784 at the King's Arms hotel, Margate, and described as being 'lately employed as a Passage boat in the employ of Messrs Hennessy and Co., but formerly in the service of Minet and Fector, Dover'. Messrs Cobb appear to have acquired this boat, and in 1793 it was still sailing to Ostend.

Messrs Murdoch and Co. Ostend merchants in Margate, advertised their vessels as being 'of neutral bottoms', and 'fitted up in an elegant, neat and suitable manner, proper for the Nobility and Ladies and Gentlemen', and the firm was 'determined to pursue with spirit the Success they hitherto have been honoured with'. These boats were also 'protected from the Depredations of Privateers'. and sailed every day on every tide if necessary. They also plied in 1782.

Francis Cobb and Son. In 1785 Captain Henry Kerwin and Captain Jethro Sandwell (late of the Iceland fishery) sailed their vessels which 'went constantly from this place to Ostend during the Summer Season', every Tuesday from Margate, every Friday from Ostend, 'fitted up in the most commodious and convenient manner for Passengers, Baggage, Horses, and Carriages'. This firm owned the sloop *Neerstegheyst*, 55 tons, Captain Jethro Sandwell, in 1784, formerly named the *Queen Charlotte*, and at one time owned by Hennessy. The vessel was put up for sale in February 1784 at the King's Arms hotel, Margate.

John Rowe, senior, owned the *Neptune* yacht, sailing to Ostend in 1783, and which was 'fitted up with superb accommodation', and passengers had 'expressed the highest satisfaction at the Reception they had met with, and the elegant and convenient manner in which the above yacht is so completely furnished'. Horses were also carried, and the boats sailed to Ostend, Dunkirk, and to any part of the Continent where they were hired.

Prince of Wales, Captain John Rowe, junior, in 1782 sailed between Margate and Ostend. In 1792 this boat was still sailing with Captain John Rowe, senior, master, and James Laming, owner, and plied to and from London, and stated to be 'newly fitted up for the reception of Ladies and Gentlemen, with every accommodation to render the passage pleasant, safe and expeditious'. The vessel sailed every Sunday during the season from Margate, and returned from Dice Quay, every Thursday.

Prince William, Captain John Rowe, junior, in 1783, 1784, plied between Margate and Ostend, Dunkirk.

Pearl, cutter, Captain Henry Jones, in 1785, advertises as being 'late mate to Captain John Rowe, junior, informs all Ladies and Gentlemen that he has got a Large Passage Boat called the Pearl cutter, about 50 Tons', carrying baggage, passengers and carriages.

Messrs Mitchener and Benson, in 1791 to 1794, also owned passage vessels described as 'convenient for horses and carriages as at Dover, also better than Dover for the Passage to Ostend', and they advise that 'Margate is situated for making a more expeditious passage to and from Ostend than any other place'. The boats were all 'elegantly fitted up... constantly sailing from Margate to Ostend and Dunkirk'.

Robert and Jane, yacht, Captain Robert Kidd, plied between Margate and London, from 1786 to 1789, and from 1792 to 1797. In 1786 the vessel is advertised as 'being fitted up in a very commodious manner, sails during the Summer Season, with Passengers and luggage from Margate every Monday, and from the Wool-Key near the Customs House, London, every Thursday', and had three distinct cabins, the great cabin, the middle and the after cabin, fares 4s. 6s. and 10s. 6d. In 1792 the fares were increased, the great cabin with sixteen beds, 5s. each person, the middle cabin, with six beds, 7s. each person, and the after cabin, with four beds, remained at 10s. 6d. In October 1798 the cutter was put up for sale, described as 'well known for her remarkable fast sailing, burthen 67 tons, per register, has been, and still is, in the passage employ between Margate and London'.

Endeavour, yacht, was put on sale in February 1782 at the King's Head, Margate, and described as being 'well known in the Employ from Margate to London, six years old, burthen 55 tons, or thereabouts, well found, and all materials, ready for sea; now lying in Margate Pier.' Owner: Thomas Cock, of Margate.

The *Endeavour* was still plying in 1788, with Captain Vincent Kennard.

Dispatch. Captain Richard Laming, and Robert Kidd, owner, in 1788 plied between Margate and London; and also in 1794 was still sailing, with James Laming, owner, and described as being 'under the direction of able and experienced seamen', and sails 6 a.m. every Monday during the season, returns from Dice Key, London, every Friday at tide time.' The owner 'flatters himself by a strict attention to the accommodation of his Friends, to merit their esteem which will be gratefully acknowledged by their most obedient and humble servant'. In 1797 there was a *Dispatch* still sailing.

Liberty. Captain Richard Moon, in 1789, sailed between Margate and Ostend, Dunkirk, Boulogne. The Captain 'acquaints the Nobility and Gentry that this vessel is an exceedingly fast sailing vessel, with every possible accommodation for their Convenience and Pleasure', and being

'determined that every attention and assiduity to render the Passage safe and agreeable shall be his invariable Object, he, with great Deference, humbly solicits the Patronage and Support of the Public in general'.

Rose in June. Captain John Rowe, senior, 100 tons, plied between Margate and London in 1790. The vessel was 'fitted up with every desirable accommodation for Passengers, sails from Margate every Saturday, and returns from London every Wednesday, during Winter season', and calls at Ramsgate, Broadstairs and Westgate. The Gun Tavern, Billingsgate, was Captain Rowe's rendezvous.

In 1796 there was the *New Rose in June*, Captain Palmer, and in 1797 it was stated to be 'built on an improved plan'.

Britannia, yacht. In June 1793 this was advertised as 'just launched at Dover, John Finch, will sail from Dice Key, London... and return hence to Margate... and continue to run so during the Season'. 'The above yacht is elegantly fitted up for the reception of Passengers', the best cabin fare was 6s. This boat also sailed in 1796 and 1797, from Margate every Friday, and returned on Tuesday.

Sisters, Packet, Captain William Tuston. In 1793 this was advertised as being 'a new vessel, near 70 tons, sails remarkably fast; is fitted up in a stile of peculiar elegance and convenience, for the accommodation of Passengers, with two private Cabins which may be engaged by select parties'. Passage in the after Cabin and round-house fare was 10s. 6d. each person, or the whole after cabin four guineas; the round house, two guineas; the great cabin, 6s.; the second great cabin, 4s. each person.

The vessel put up at Customs House Quay.

Royal Charlotte. Captain James Laming, *owner*, in 1796 and 1797 the boat sailed every Monday from Margate, and returned from London on Fridays.

Princess of Wales. Captain J. Hillier, *owner*, in 1796 and 1797 sailed on Tuesdays from Margate, and returned from London on Saturdays.

British Queen. Captain R. Laming, *owner*, in 1796 and 1797 sailed from Margate on Thursdays, and returned from London on Mondays. These boats put up at Dice Quay, London, and the fares were, after cabin 7s. and fore cabin 5s. and were stated to be 'built on an improved plan and fitted up in a stile of elegance... and sail about an hour before high water at London'. These packet vessels so elegantly fitted up 'at once shows the emulative spirit of their owners, who are men of respectability; and to whose persevering exertions Margate must be thought not a little indebted for its present prosperity'.

RAMSGATE

Princess Mary. 220 tons, 10 (4 lb.) carriage guns, 4 swivels, 3 masts, square stern, billet head, 40 crew. Captain William Arthur. *Principal owners*: George Curling, of London, James Webster, of Leadenhall Street, merchants, and Captain William Arthur. The ship traded with Jamaica carrying plantation stores. 1778.

Ramsgate. 60 tons, 6 (2 lb.) carriage guns, 8 swivels, 25 crew. Captain William Walker. *Owners*: Thomas Roust and George Gray, of Ramsgate. 1779.

Ramsgate, cutter. 45 tons, 6 (3 lb.) carriage guns, 6 swivels, 30 crew. Captain Daniel Witherden. 1780. *Owner*: George Curling, of Ramsgate.

Ramsgate. 25 tons, 4 (1 lb.) carriage guns, 10 swivels, 2 masts, loop stern, 16 crew. Captain Thomas Rowe. *Owners*: John Farley, William Lilliford, and John Stack, of Ramsgate, merchants. 1780.

A newspaper record of June 1781 states, 'this morning was discovered off Broadstairs a French privateer, commanded by Captain Johnson, an Irishman. Intelligence being brought to Ramsgate, Captain Thomas Rowe, of the Ramsgate privateer, went in pursuit of her, and about two o'clock came up with and took her, and brought her into Ramsgate harbour. She is a sloop rigged vessel of 30 tons burthen.'

Charlotte. 50 tons, 6 (4 lb.) carriage guns, 6 swivels, 30 crew. Captain John Mockett. 1780. *Principal owner*: George Curling, of Ramsgate, merchant.

Thomas. Captain Thomas Rowe. A newspaper record of January 1789 advertises the sale of 150 bushels of French chestnuts taken from the ship *De Jonge Adriaan*, Frans. Smeer, master, taken by the 'private ship of war, Thomas, Rowe, commander, of Ramsgate'.

Friends, brigantine. 75 tons, described in a newspaper sale record of March 1787 as being 'lately employed in the Iceland fishery for which she is now completely fitted', 'British built and well found and well equipped for the coal trade'. This vessel was apparently owned by Thomas Rowe, of Ramsgate.

Lord Howe, described as 'that well-known boat, licensed and registered, fitted either for lug sail, or sloop sail'. Further advertised for sale in September 1789 as being 'in every Respect complete, and was used by the late Mr. Thomas Rowe, Pilot, and is too well known on the coast to need further Description'. In March 1790 the vessel was again put up for sale at the King's Head Inn Tap, described as 'that lugsail Hovelling Boat, but commonly known as Cooper Rowe's Privateer', a prime sailer, in good repair.

Glory. In a sale record of April 1791 this ship was described 'the good lugger Glory, 5 years old, clinker built, 22 tons, 35 feet long, 13 feet broad, very strong built with copper nails, with a deck and room boards complete for a yawl for the fishing trade, or any other where dispatch is required, being a fast sailer', also a boat 18 feet long. The *owner* appears to have been William Stock.

A Ramsgate owner had a passage boat, the *Ramsgate*, 65 tons, described as 'a good sloop or Hoy', 'of an easy draft of water, Charles Fagan, late master, and *owners* John Gowger and George Bourn, of Ramsgate. In May 1780 the vessel was advertised for sale as being 'completely fitted for a passage vessel from London to Margate, having (in cabins) six large Bed places. . . and in steerage four Bed places, all completely furnished, with Feather Beds, Mattresses, and a sufficient quantity of Blankets, Quilts, Bolsters, and Pillows, to all the above Bed places'.

BROADSTAIRS

Hawke. 25 tons, 6 swivel guns. 1781.

Thomas and Susannah. Robert Sandwell, master. A newspaper record of March 1796 states that this ship 'was taken by a French privateer and carried into Harve le Grace. She was loaded with King's stores bound to Portsmouth. The vessel was insured but for a very small sum, which fell very heavy on Mr. Robert Sandwell whose great loss is sincerely regretted by all who know him as being a worthy upright man.'

SANDWICH

Three Brothers. 95 tons, was advertised for sale at Sandwich in June 1781 at the Rose Inn, described as being 'a new built cutter, lately launched', and 'built entirely of oak, and is very strong'.

Sandwich, brig. Captain Read. In a newspaper record of September 1783 this ship was described as 'belonging to Mr. Warman, of Sandwich, in her passage home, laden with coals, sprung a leak, in a gale in Yarmouth Roads, and sank, the men took to their boats, but were taken up by a sloop and carried into Yarmouth'.

Stephens. Captain Stephen Stanner, of Sandwich, in 1788 traded with Exeter in wool.

Ceres, hoy, Thomas Hope, hoyman, *owner*. In 1792 she sailed for 'Chester Key, London', with goods, and the owner states that 'he shall discharge his duty as a faithful Hoyman, and doubts not but that the town of Sandwich and its environs will find him punctual and careful in the execution of their orders'.

Endeavour, hoy. *Owners*: Mrs H. Hoile and J. M. Cocking, partners. In 1794 the latter owner advises that 'he will attend the Corn markets in Sandwich and London'.

Young Roscius. 186 tons, 14 (12 lb.) carriage guns, no swivels, foreign built, figure head, 2 masts, 50 crew. Captain Pendock Neale, with William Sargeant, mate. *Owner*: John Iggulden, of Deal.

This ship was well known along this coast at this time, and obtained letters of marque in 1805.

SOURCES

The records are taken from the pages of:

Kentish Gazette from 1778 to 1800.

A Short Description of the Isle of Thanet, by R. E. Hunter, 1796.

The Margate Guide, 1797.

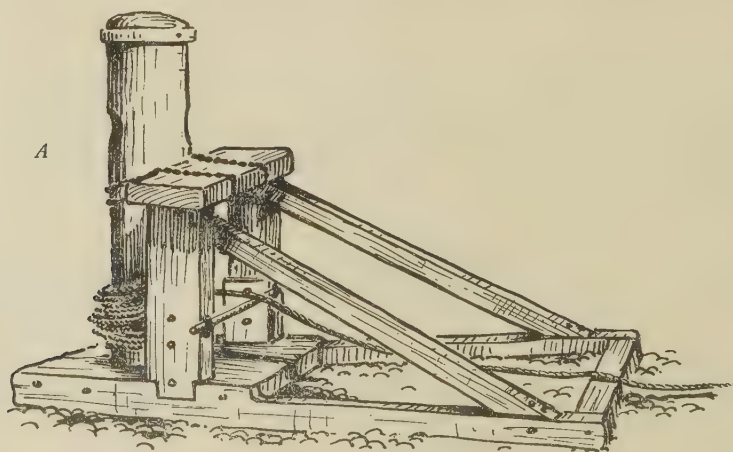
There is a MS. on Margate Hoys by the late A. W. Rowe, and deposited in the Margate Library, which contains many of the names mentioned in this record, but nothing has been copied from this MS.

NOTES

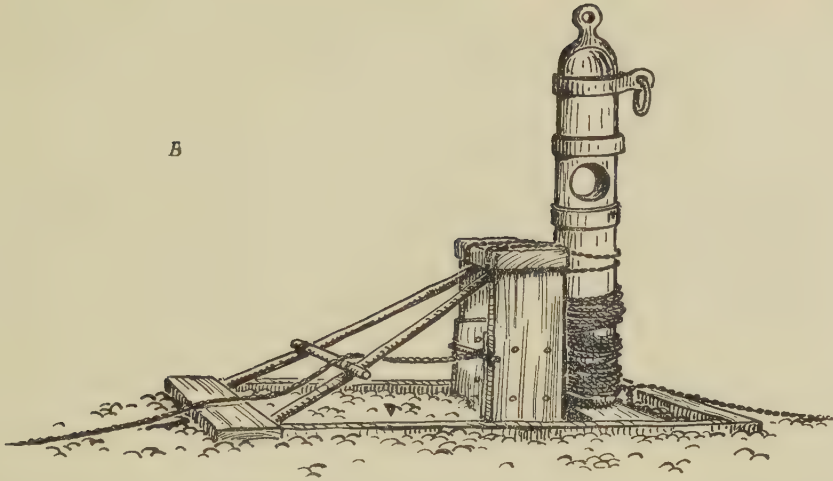
BEACH CAPSTANS, SUSSEX

(See also *M.M.*, Vol. 41, p. 74)

Stout wooden manual capstans of simple and possibly ancient design are in common use on the Sussex coast. They are used for heaving fairly heavy fishing boats and pleasure boats up shingle beaches. The examples shown in the two drawings were seen at Worthing a year or so ago.



B



Both capstans are of the same general design, but that in Fig. B is perhaps of more interest because its barrel has been fashioned out of the goose-neck end of a ship's wooden cargo derrick or boom.

C. H. WILLIAMS

AN ANGLO-SWEDISH INCIDENT IN 1647

The article on William Batten in the *Dictionary of National Biography* mentions that 'in May 1647 he brought into Portsmouth a fleet of 15 Swedish ships, men-of-war and merchantmen, for refusing to pay the accustomed homage to the English fleet in the narrow seas'. For authority we are referred to Granville Penn's *Memorials of Sir William Penn*, Vol. 1, p. 242, and there we find that the paragraph is quoted from Rushworth's *Historical Collections*.

As given by Penn, the account is as follows: 'May 5th and 10th.—Letters from the navy certify a fight near the Isle of Wight. A fleet of Swedes, consisting of 15 sail, mostly merchants, refused to lower their topsail, though called to by Captain Owen, the rear-admiral, which occasioned a fight. They told him, they had order from their mistress, Queen of Sweden, not to strike to any whatsoever. The Swedes had their admiral, vice-admiral, rear-admiral and two other men-of-war, and some merchants bound for Constantinople; but in the end, not only the merchant-ships forsook Captain Owen, but the two men-of-war drew back and left him. He lost one man and had three wounded. The Swedes had much loss; their vice-admiral and rear-admiral had their colours shot down, and a great breach was made in the vice-admiral, with much other loss. The fight continued until night. Capt. Batten, the vice-admiral, relieved Captain Owen, and brought in the Swede's fleet to Portsmouth.'

Whitlock, *Memorials*, p 249, has an entry on 5 May evidently based on the same source as Rushworth's, but slightly distorted: 'A fleet of Swedes refusing to lower their topsail to Captain Owen, he with some other of the Parliament's ships fought them. Some hurt was done on both sides; but some of Captain Owen's ships forsake him, yet afterwards the vice-admiral of the Parliament's fleet, Captain Batten, came in, relieved Captain Owen, and brought in the Swedes fleet to Portsmouth.'

A longer and far more satisfactory account appeared as a pamphlet (B.M.—E.386.12) entitled 'A full relation of a sea fight betwixt the Parliament ships and the Queen of Sweathlands upon the coast of England near Portsmouth, May 1'. According to this, on 2 May (Sunday) a 'small frigate' reached Batten with 'a packet' from his rear-admiral (Owen in the *Henrietta Maria*) saying that he had been in action on the previous day with 5 Swedish men-of-war and 11 merchant-

men homeward bound from Portugal with salt. 'Great execution' had been 'done upon the Switzers', but Owen had lost no more than 8 killed and a few wounded. Batten at once got under way with the *St Andrew*, *Garland*, *Convertine* and *Mary Rose* and intercepted the Swedes off Boulogne about 8 a.m. on the 3rd.

'The captains of all their ships he commanded aboard.' They had to admit that they had fought against Owen, but proved that they had direct orders from the Queen not to strike to anyone. According to them Owen had deliberately refrained from firing on their 'admiral' and had confined his attentions to the two officers next in command. They also mentioned that the fight had ended off Beachy Head. Batten then held a council-of-war at which it was decided to take the Swedish 'vice-admiral' into the Downs and to let the rest go, 'in regard of their shortness of victual and having charge of the convoy'. All this had been 'performed without shooting so much as a musket'. The Swedish ship was not long detained; an order of 7 May instructed Batten 'to discharge her; that she, with the rest of the same fleet, may proceed on their voyage home'. At the same time 'the vice-admiral's and rear-admiral's proceedings, in order to the maintenance of this kingdom's sovereignty at sea' were approved. (*Penn.* Vol. 1, pp. 243/4).

The names of the Swedish ships and their commanders, as given in the pamphlet, may be compared with those in Zettersten's *Svenska Flottans Historia*. The English version is given first:

Leopard 32, Martin Thysin (Ad.)
Angel Raphael 24, Daniel Johnson (V.Ad.)
Neptune 18, Morris Cook
Anna Froe 22
Neptune 24

Leoparden 30, Mårten Ankarhjelm
Engeln Rafael 26, Daniel Jönsson Struts
Neptunus 24, Maurits Kock
Hafsfrun 24
Fortuna 24

A few words of explanation are necessary. Ankarhjelm's original name was Maarten Thijssen; he had commanded a fleet of Dutch ships hired by Sweden in 1644 and had been given a Swedish title of nobility for his services. The 'en' or 'n' at the end of Swedish names is the definite article. The second *Neptune* in the English list may be simply a mistake for *Fortune*, but it is difficult to explain *Anna Froe* where one would expect *Mermaid*, that being the meaning of *Hafsfru*.

Zettersten is the only Swedish naval historian who mentions Ankarhjelm's voyage and he says nothing about any trouble with the English or indeed about convoying merchantmen. According to him it was a purely trading voyage in which Swedish masts and timber were to be sold in Portugal and salt bought with the proceeds. When the fleet left Gothenburg, on 12 December 1646, Ankarhjelm was in the *Göteborg* 30, but that ship was soon so much damaged by heavy weather that he had to send her into Hellevoetssluijs for repairs and shift into the *Leopard*. His ships reached Lisbon about the end of January; they were back at Dalarö, near Stockholm, on 18 June.

The English story is probably exaggerated and is certainly inaccurate. No Swedish fleet was 'brought into Portsmouth', though the ship of the second-in-command was taken into the Downs and detained for a few days. Apparently Owen's attempt to make his two opponents strike their flags was in vain; but, when Batten came on the scene with superior force, Ankarhjelm and his captains seem to have obeyed his summons. Whether he actually insisted on their striking is not clear. One thing is clear; the Swedish 'vice-admiral' was not held to blame in his own country for anything he had done or failed to do, for he also was raised to the nobility in 1648 under the new name Strussflycht.

R. C. ANDERSON

OCEAN VOYAGES OF THE PAST

With reference to Mr Hasler's note in the August 1958 *M.M.*, Morrison, 'Maritime History of Massachusetts', p. 116, mentions that in 1810 an American ship was seized by the Danish authorities because she had no angle-measuring instrument nor charts on board, which they considered proof that she had come from England and *not* from America. 'The other American shipmasters

in port then drew up a protest in which they assert: "We have frequently made voyages from America without the above articles, and we are fully persuaded that every seaman with common nautical knowledge can do the same". Perhaps the good faith of the shipmasters may be impugned, but the sequestered vessel seems to have come from America.

D. L. DENNIS

THE 'MAHODA' IN BRUEGEL'S PRINTS

With reference to the letter by Mr E. K. Thompson, on p. 140 of your issue of May 1958, regarding the origin of mahona and the Turkish Mawunah in use in the sixteenth century of our era, might I be allowed to suggest that the origin—far back—may have been the myriamphoros—the monster-carrying ships of antiquity. These vessels were 700–800 tons, 110 ft. \times 36 ft. \times $\frac{1}{8}$ ft. It carried a huge mainsail, a spritsail and a lateen aft.

GEORGE PERCIVAL KAYE

GHOSTS ON THE SEA-LINE

I would like to comment on one or two points arising out of the review of the book *Ghosts on the Sea-Line* which appeared in the May issue of *The Mariner's Mirror*.

The reviewer complained that many of the ships mentioned were nameless. I would suggest that this 'fault' is not without precedent. Surely Conrad's *Mirror of the Sea* is probably the greatest amongst the classics of the sea, yet it contains no names. Would Commander Williams condemn it, also, for this reason? The very fact that the author omitted names serves to provide a general picture of the last square-riggers in their entirety, for it seemed to me that he had attempted to portray, in a series of vignettes, the whole story of the sailing of all the ships, and described incidents as mere examples to this whole, rather than narrowing the field, as in so many books about sailing ships, by particularizing on certain specific vessels. Vignettes may appear 'disjointed', but only to those who expect the well-worn narrative of 'voyage' books! If this book failed as a contribution to Nautical Research, I would hazard a guess from its form that it was never intended to be a text-book and I am sure that our Society is not so bigoted that it can read nothing but statistical data with enjoyment. I have heard it remarked that, because *Ghosts on the Sea-Line* painted so broad a canvas, it may well prove to be the one contemporary work on the subject to be reprinted in twenty-five or fifty years. However, since an excellent article, describing his vessel broaching to, recently appeared in another Journal over the reviewer's initials, yet with the ship in question nameless, we must assume that he had his tongue in his cheek when he wrote the review even if—remembering the adage about 'sauce for the goose...'—we question his equity!

Whilst it is quite legitimate to call attention to genuine errors in a book under review, and, in this case, there were two, it should certainly be a bounden duty of any reviewer to ensure that the author is wrong. For instance, the tale of the barque which was driven north of Iceland in a temperature of 30° below zero, and which the reviewer seemed to regard as hardly credible, must surely refer to the *Ponape*. According to my records, this vessel, then Norwegian, made just such a voyage as was described in 1925–6. Certainly Lloyds List casualty report, and other contemporary accounts, check with the facts as presented by Mr Hurst, except in so far as the story, as related to him by a donkeyman, barely touches on the bones of that epic passage if, indeed, it was the one that he had in mind. At all events, it was not a 'tall story', as the reviewer alleged: nor, as far as I could judge, could any of the anecdotes I read be listed under such a heading.

Then, again, there is the matter of a clewline to an upper topgallantsail. The author is, of course, right here and the question must, consequently, clear itself up. Nor is it accurate to state that the author complained that the British ship did not salute his vessel by blowing her whistle. He complained that 'she ignored us utterly'.

Commander Williams evidently takes exception to the term 'wind-jammer'. However repugnant it may have been in its original form of uncomplimentary epithet, it is certain that, due to Basil Lubbock and others (whether rightly or wrongly), it has become immortalized in a quite

different sense from its original meaning. This is but one change in our constantly changing language and terminology.

I have felt moved to make these comments since, having derived immense enjoyment from this book, especially in respect of its superlative descriptive passages and broad conception, I was thankful that I had read it before seeing your review, since, although I might not have been dissuaded from doing so by the reviewer's comments, I detected a rather harsh note which I felt was somewhat less than just.

W. O. B. MAJER

THE SOLITARY GRAVE OF DIEGO RAMIREZ ISLANDS

(See *M.M.*, Vol. 44, p. 145)

Here are some more details on the solitary grave on the Diego Ramirez Islands, mentioned by Edgar K. Thompson, *The Mariner's Mirror*, May 1958, p. 145. The information comes from the Chilean Navy, through the Naval Attaché at the British Embassy in Santiago.

The name on the stone, according to the Chileans, is Ansel L. Thomas, and, like Captain Thompson, they suggest that the ship's name was *Schohonzo*, or *Schomonzo*. The measurements of the tombstone are: height, 0.80 cm.; width, 0.40 cm.; thickness, 0.08 cm. The tomb is well preserved, and there is a stone pathway around it.

The Chileans are unable to say whether Thomas came from Portland, Dorset; Portland, Maine; or Portland, Oregon. There is no record, in Chile, of who built the tomb. There is no marble on the Diego Ramirez, but there is an abundance of marble on the Cambridge Isles, which are at the extreme south-east of Chile. That, of course, does not mean that the marble for the tomb came from these isles.

Incidentally, the Chileans say there is no lighthouse on Diego Ramirez, but there is a look-out post and a radio-telephone station.

Does anyone know of any equally lonely grave?

F. C. RHODES

RODE DOWN

In our 4th volume (1914) Mr Stuart Bruce used this expression of a ship which sank at anchor in bad weather. Mr Laughton shortly took exception to this, saying that he supposed it meant 'went down' (i.e. did *not* 'ride at her anchors'). Several instances of 'ride under' were then produced and now in Mr Frank's second article on Humber Keels we find 'rode down at her anchor' used by a professional seaman as the natural expression.

R. C. ANDERSON

NOTES ON BRETON FISHING LUGGERS

The following remarks about the *bisquines*, the fishing luggers that formerly existed on the coast of Brittany, were contained in a letter from one who personally knew them, Monsieur P. Bruhier, of Cannes, France. As I have never seen in print, either in French or English, anything beyond a mention that these vessels existed, perhaps the matter may be not without interest. The footnotes are mine.

'The lead of the tacks and sheets of the topsails was very diverse. In little bisquines very often they lead through well-smoothed holes in the ends of the yard below; in larger ones through a sheave or block—there was no fixed rule.¹

At Cancale the topsail was called the first, the topgallantsail the second, topsail (hunier).²

¹ In a sketch accompanying his letter Monsieur Bruhier shows both the tack and sheet of the topsail and topgallantsail going through a block near the slings of the yard below (the former through one a little before, the latter through one a little abaft the mast) before leading down to deck. I think, however, that not infrequently the tacks went directly to the deck, from the neck of the yard below.

² Commandant L. Guilleux La Roërie, French Navy, told me the topgallantsails were only carried while racing.

The mizzen had also sometimes a topsail, the mizzen sheet lead through a block at the end of the bumpkin.

The foretack often boarded to the stem-head itself, the main tack to the cross-piece that supported the mast.

The sails were never shifted in going about.¹ Generally those on the foremast were on one side of the mast, those on the mainmast on the other, so that none should press against the mast when sailing wing-and-wing. Despite the numerous points where the sails rubbed against the masts, there were no mast-linings on the sails. The canvas was always of the best quality, and as soon as any sign of chafe appeared a patch was put on the sail—in fact, even when racing, a bisquine had almost as many patches on her sails as a homeward-bounder had on his trousers. The fishermen's races offered an example of most severe competition, given the qualities of the truly hard-a-weather sailors who manned the vessels. They were sailed gunwale-under without anyone dreaming of shortening sail.

All the sails on one mast were trimmed by the lower sheet alone; the yards taking automatically the traditional orientation of each one a little less sharp than that below.

It was very rare for a bisquine to have more than one jib, but in moderate weather and above all in racing this jib was of impressive size, and the clew came as far aft as that of the foresail.²

There were usually no downhauls on the upper sails; in taking them in they generally blew clear of those below and came down under their own weight. If there were any, they were simply a single line with the standing part bent to the slings of the yard. Nor were there, three-quarters of the time, any travellers on the lower yards, but simply a truss of the type I have already spoken to you about and which served also as a mast downhaul.³

But there was never any standardization, each skipper rigged his vessel as seemed to him best and most simple.'

D. L. DENNIS

JOINERY OF MEDIEVAL HULLS, c. 1450

It is often thought that the element of time sometimes shades and blacks out the past of antiquity, especially in those subjects in which man had no contemporary interest to preserve for future generations like he did in the arts and in those subjects which we have handed down to us today as tangible evidence of his way of life. These are represented to us in many ways as paintings, sculpture and masonry, all of which are most valuable to the student in respect to such arts. But how about the student of Marine Archaeology? What actual tangible evidence have we as such students that we can lay our hands on and say positively 'this is it'? To be sure, we have evidence in paintings, plans and drawings and contemporary models to carry us back to within a degree of accuracy to some assurance of a proper perspective. So the period of our concern for enlightenment is not as void of facts as has been assumed by many, but does hold for us of concrete examples that we

1 This was made possible by the circumstance that there were neither lower nor topmast stays to interfere with the process. The jib halyards passed to windward of the luff of the fore topsail, every other tack.

2 This is a little exaggerated but the clew of the ordinary jib came as far abaft the foremast as that of the balloon foresail of a cutter yacht. The sheets of the jib, foresail and mainsail passed outside the shrouds of the mast abaft—that of the latter boarding to the very quarter-piece. The jib sheet was generally single, those of the foresail and mainsail tackles with the upper block shackling to the clew. When racing a balloon jib was carried (its clew also coming well abaft the mast) hoisting to the topmast (not topgallantmast) head.

3 This truss had an eye and thimble in one end and its bight was seized to the lower yard tie not far above the yard and not far from the eye, thus dividing the truss into a short branch terminating in the eye and a long one. The end of the long branch after passing around the mast, went through the eye in the short one and went down to deck. A knot or mouse was worked on the longer branch sufficiently far from the tie that it prevented this running eye from gripping the mast tightly when the truss was used as a downhaul.

can go on with assurance, leaving only a small portion that we need draw on our imagination. For instance, we have actual drawings that are contemporary art works of their day, crude in many respects to be sure but enough is shown us to set us on the right path, and with logical deductions therefrom we can arrive at a correct basis for our conclusions. One such evidence that we have to illustrate this point is the drawing depicting the embarkation of the Earl of Warwick in 1485. This simple but accurate drawing is completely reliable. The artist has depicted with a great degree of skill a three-dimensional aspect of the scene before his eyes which few such artists at the time were able to do and still show an intimate association of detail of a ship of the period with proper perspective. In this drawing is clearly shown the rudder as attached to the stern post and a quasi view of the deck and forward section of the forecastle. From this drawing we learn one important feature of hull construction and that is the beginning of the moulding of the after erection in conformity of the hull proper. We have therefore with this drawing established, if nothing else, one important point, that of the summer castle erection having reached that point in its evolution of taking on the mould of the hull which it graces, unifying both as one.

As to detail of construction, we have many sources, primarily from those wrecks that have been located from time to time and from which records and details have been made. The oldest of which is the Gokstad hull found in a burial mound in Sande Fjord in 1881. This had been preserved almost complete with all constructional details shown clearly as to leave no doubt; however, since we are not for the moment interested in this period of around A.D. 300 we must move forward to the century we are concerned with and see what sources we already have at our disposal to guide us. The few medieval paintings and drawings that we have of this era are so badly out of proportion that no reliability can be drawn from them, especially as where the ship was of secondary consideration and was inserted only within the picture to amplify the paintings' location of the historical event depicted by the artist. The only source of early shipping that we can place any semblance of reliability on are the seals of the great sea ports which in most instances bore the image of ships. However, all of these are out of proportion and have been greatly distorted by the artist in order to fit the ship depicted within the confinement of the medallion itself. The Seal of Sandwich (1238) is one of the earliest and does show us clearly the short plank ends of a clinker-built hull. No phase of hull contour or constructional detail of course, can be ascertained from this coin. However, one valuable aspect of these seals is the placing with good certainty the period when the steering board was moved to the stern post. Also the assurance that the typical medieval hull was of clinker or lap-strake construction. We now have a beginning and this knowledge added to later findings of an actual medieval hull itself brings us right down to something better than an assumption, an actual working basis for our conclusions. One of the best and first findings of such a medieval hull was the locating of the Northiam vessel in 1822. At the time of this finding the knowledge then possessed of the historical aspect of ships was not too great and it was immediately labelled as being one of the double-ended hulls of the Danish invaders of the ninth century. Fortunately a print of this wreck has been preserved, and from the knowledge since acquired of the approximate date of the introduction of the stern rudder, learned from the Great Seals preserved to us, that it could not have been earlier than the thirteenth century as the rudder is shown clearly as hanging from the stern post. From other details set out in the photograph, we have a great insight into the construction of the ship. She was wall sided and decked from stem to stern with a long open hold amidships crossed by two heavy deck beams. This hull, as depicted in the print preserved to us, is likened by many as being almost 'timber for timber' to that of the 'modern' Humber keel. Also the measurements as recorded of this ship are 65 ft. overall with a beam of some 14 ft. A typical 'modern' Humber keel as still is in existence today carries a measurement of 62½ ft. overall and a 15½ ft. beam. Therefore, we can assume with some degree of assurance that this ship was a typical coastal carrier of her day. This ship then, can be dated at not later than 1450, and is the only known medieval English hull which was preserved to us long enough that almost complete measurements and recordings of her dimensions have been handed down, with assurance and accuracy.

Another discovery of great importance was the uncovering of the 'Hamble River' wreck in England in 1875. This wreck, due to its constant submersion in alkaloid mud for centuries,

exposed only rarely at low tide, was when finally inspected for a detailed survey in 1934 found in a highly decomposed state with only a few of the 'floor timbers' left intact and on the forward section only. However, there was enough timber remaining and exposed sufficiently to allow for its measurements to determine its hull contour up to about the 3 or 4 ft. water-line. Since this hull showed in all clarity the mode of timber fastenings, scarf joints and details of the clinker laid planking, I was able to compose a drawing of what I believe is as close proximity of this period of

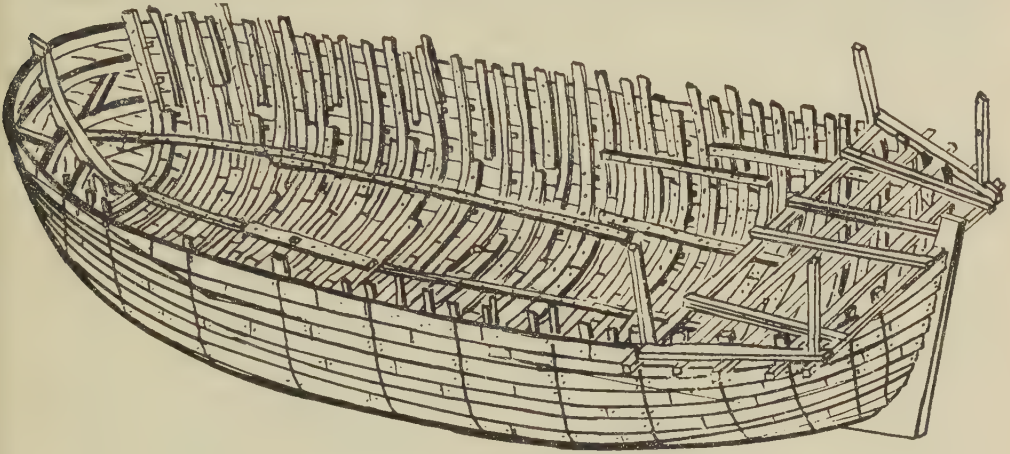


Fig. 1. The 'Hamble River' wreck.

hull construction as we have learned to date. The Hamble River hull has supplied us with the medieval process of hull fastenings and construction, and the Northiam hull has given us its proximate form and length to beam ratio. We now have established a well-founded 'yard stick' to go by; we have the evidence before us and can base our constructional 'modus operandi' and drawings therefrom with positive assurance, without qualms or misgivings.

The hull I have depicted herein is what I shall call a typical coastal 'work horse' of this century which plied from port to port, estuary to estuary of England. The principal of the laminated plank was an important feature of this type of construction as such heavy timbering would presuppose planks thick enough to maintain lateral strength and at the same time hold their fastenings and not spring out at their ends. This was accomplished by laminating several thicknesses superimposed over one another one at a time in proper sequence, each offset from the other in short lengths to give strength throughout the whole strake. The object herein was to gain strength as to its outer 'shell' and hull form. The ribs and inside construction timbering were secondary only to stabilize its rigidity, and maintaining its shape. As to the constructional phase and workmanship of these ships was of a crude form and were roughly built but did show evidence of excellent fittings at times when required. All effort was concentrated on the hulls' strength as to lateral rigidity and because of that, the method used of setting in the ribs after the planking was on, was utilized to its fullest effect. This system of lap-strake or clinker type construction was prevalent. This allowed for each strake of planks to be fastened to the one preceding it by spikes 'through and through' thereby utilizing the lateral resistance to each strake by carrying the burden of solidity throughout the completed hull where the frames were only secondary in accomplishing this purpose. The first phase of construction, of course, was the laying of the keel with the stern and stern post properly aligned. Then this was followed by the correcting of 'control frames' every 4-6 ft. properly notched out to take each respective strake. After the hull had been completely planked then came the process of filling in the gaps between the control frames. The short and long pieces as required, composing the floor timbers, with their respective futtocks faying against

and fastened through and through with long spikes. This 'fill in timbering' was of no continuity or order as to timber size and uniform siding but was put in 'when and where needed' to truss up the hull's perpendicular resistance, and to give bearing to the planks. Since the 'fill in' ribs were not notched out, the planking, therefore, did not lay flush against the timber's facing, and in order to accomplish a good bearing for both, wedges were driven in between the frames and the planking then drilled and tree-nailed. Many of the floors were scarfed to their respective futtocks in order to conserve space throughout the hull and were tree-nailed and spiked together. The scarf joints were not nibbed on the ends but were shimmed out to their extremes.

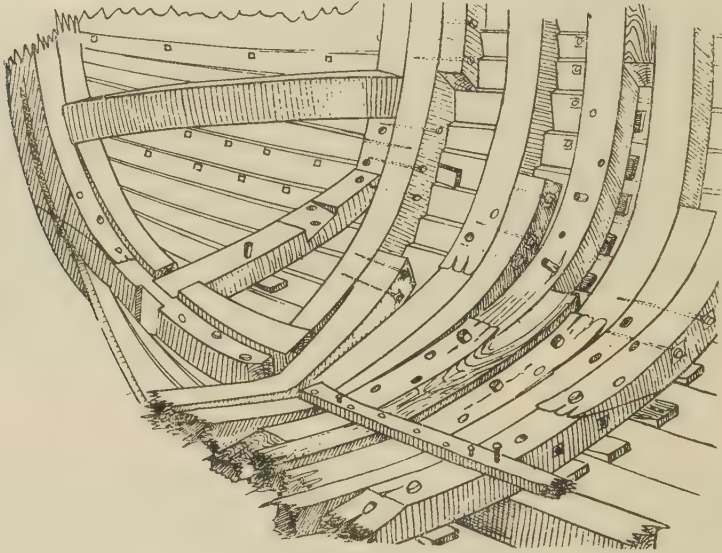


Fig. 2

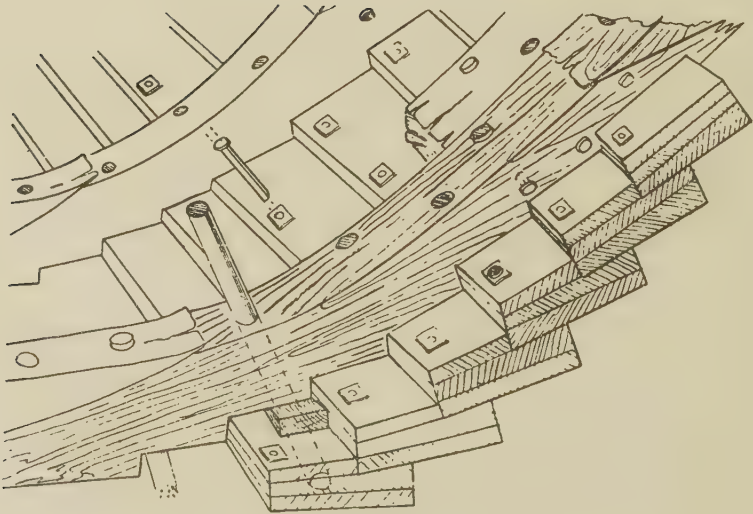


Fig. 3

Since the ends of the ship were for all purposes the same shape and were full with no compound or 'S' sections to complicate the framing, the control frames were brought both forward and aft as far as possible in where the angle of bevel necessitated their discontinuance. All framing was square across the keel and all timbers were heavy and moulded uniformly throughout in order to take the extreme bevel at the ends and to carry an even facing for the inside truss planking, or 'thick stuff', since the clinker type planking when put on held its form from the last control frame forward and aft by the rigidity of the superimposed lapping of one another; no vertical or 'hawse timbers' were used to 'fill in' this last section both forward and aft to their respective stem and stern post. All that was necessary was the setting in of heavy timbers in order to carry forward the continuity of the trussing of the hull and allow more bearing surface for the plank ends. By this time the mast step timber had been carried forward and aft far enough to give additional security to the fastening of the floors to the keel.

J. R. CLARIDGE

QUERIES

1. (1959.) *THE MAYFLOWER II*. In the synopsis of Alan Villier's lecture on the *Mayflower*, reference is made to the spritsail being carried on the wind. I expect the lee yardarm was topped so that the head became the weather leech, but how was the weather clew extended?

If the lateen mizzen was changed when the ship went about and if this was done by tripping the lower end of the yard abaft the mast, did the tack and 'bowlines' have to be unrove? If there were brails leading through blocks on the mizzen yard before the mast, did their hauling parts have to be dragged around abaft the mast?

These may be small points but Alan Villiers is probably the last man who will ever have experience with mizzens and spritsails.

D. L. DENNIS

2. (1959.) UNUSUAL SWORD BELTS. Two sword belts of unusual pattern have recently been acquired by the National Maritime Museum, and it would be of great interest if anyone could give any information concerning others of the type or the circumstances in which they were worn.

Both these belts have round the waist the two lines of gold embroidery which since 1832 have been the mark of the full dress sword belt of a lieutenant or other officer of equivalent or junior rank. Although fitted with 'Ds' for the customary flat sword slings these belts have slings each of which is made of two parallel pieces of cord. One belt, which was received from the National Museum, Bulawayo (previous owner unknown) has these slings of gold cord, while the other has them of blue and gold, similar to the cord of a sword-knot but thicker. This second belt was supplied by Galt, of Portsmouth, to Nicholas Moysey, Assistant-Surgeon, who joined the Royal Navy in August 1856 and died in 1858. Its date of manufacture is therefore known with some accuracy.

The only theory which I can put forward is that when long slings were re-introduced in 1856 and the slings of undress sword-belts were ordered to be made round instead of flat, some makers misunderstood the instructions for the slings of full dress belts and, assuming that they also must be round, evolved this type. It may be recalled that when the modern half-basket sword hilt was introduced in 1827 some sword cutlers misunderstood the instructions and made them open instead of solid.

W. E. MAY

3. (1959.) SALT WATER MILLS. In connexion with the following enquiry, the assistant keeper of the Museum of Rural Life suggests that members of the S.N.R. might be able to help me.

I am working on the history of Sea Mills, at one time known as Salt Water Mills, on an arm of the Camel Estuary near St Issey. I gather these tidal wheels were fairly common during the eighteenth century, and I am trying to find out all I can about the rise, distribution and decline of mills worked by the tide.

For any advice, references or information I shall be most grateful.

HAROLD LOWENSTEIN

4. (1959.) THE VITULI. Earl Robert, brother of the Empress Matilda, and rival for the throne of England against King Stephen in 1142 intended to sack Southampton. 'But this resolution was changed through the repeated entreaties of the VITULI who were fearful that their dearest connections who resided in Southampton would be involved in the general calamity. These are a kind of mariner who are known by the name of Vituli; and as they are his faithful adherents he thought fit to listen to their petitions, and desisted from his design.' This is a quotation from William of Malmesbury's *English Chronical*, Bohn edition, 1847, p. 534. Perhaps some reader can enlarge on the description of their being a 'kind of Mariner'.

J. M. OAKLEY

5. (1959.) THE PERPETUAL SENTRY POST. For a great many years, a favourite story on the Asiatic Station concerned a sentry post which was established in perpetuity by an irascible English Admiral. The locale was either Singapore or Hong Kong. It appears the Admiral gave a garden party and some time during the festivities, sat down on a freshly painted bench. Upon rising, his white uniform was striped on the seat and back with broad bands of green paint. To avoid his guests falling into the same state, he ordered a sentry placed on this garden bench. This order was never rescinded and succeeding Admirals, not inquiring into the reason for this unusual sentry post, facilitated the acceptance to develop into a custom. Is this story fact or fiction? If not a legend of the coast, can the name of the Admiral be supplied together with other details?

EDGAR K. THOMPSON

6. (1959.) USE OF HANDKERCHIEFS AT MILITARY FUNERALS. In Stow's *Annals*, the following passage occurs relative to the burial of Sir John Wingfield who was killed at the capture of Cádiz in June 1596:

'These things being thus happily achieved, and Sir John Wingfield verie honorably buried in Santa Cruz, the chiefe church of Cádiz, with all the funerall solemnities of warre, the drums and trumpets sounding dolefully, the shot bearing the noses of their pieces downward, the pikes trayled, his body was borne by six knights, the Generals threw their handkerchiefs wet from their eies into the grave.'

Are other instances known of handkerchiefs being thrown into a grave? Was this practice general?

EDGAR K. THOMPSON

7. (1959.) BLACK CAT UNDER A TUB. Darwin, in his Diary of the Voyage of H.M.S. *Beagle*, under date of 20 December 1831, while awaiting impatiently for a favourable wind to enable them to begin their voyage, wrote: 'The sailors declare there is somebody on shore keeping a black cat under a tub, which it stands to reason must keep us in harbor.'

Any information concerning this sailor's superstition would be welcomed. Was it entertained by any but English sailors?

EDGAR K. THOMPSON

8. (1959.) INTERNATIONAL FLAG CODE. Of the 26 alphabet flags in this code, all are square in design except the letters A and B which are swallow-tailed. Can any reader advance a reason for this difference?

EDGAR K. THOMPSON

9. (1959.) DOCKING A WOMAN. The following item appeared in the *Western Flying Post* of 9 July 1753: 'Several sailors are taken up in Deptford for what they call Docking a Woman on board a ship there.'

Can any reader explain this nautical prank?

EDGAR K. THOMPSON

10. (1959.) FRENCH VOLLEYS. Mr Basil Ringrose, in his 'Journal of the dangerous voyage and bold attempts of Captain Bartholomew Sharp in the South Seas', under date of 15 January 1682, wrote: 'This morning also we threw overboard our dead man and gave him two French volleys and one English one.' What is the difference between a French and an English volley?

EDGAR K. THOMPSON

ANSWERS

22. (1957.) TONNAGE, DIVISOR OF 94. The explanation given by Mr Munro in the *M.M.* for May 1958 was first put forward by William Parsons in 1831, in a pamphlet preceding his *Scales of Displacement*. Parsons's explanation has been quoted by a number of modern writers, but it has not always been made clear that he prefaced his remarks by saying, 'The origin of this rule, in the absence of authentic information on the subject, may be traced in the following manner.'

Parsons wrote some very important papers on the subject of tonnage measurement, and his opinions and ideas carry some weight. In the present instance, however, quite apart from his statement that he had no authentic information, it can be shown that his explanation of 94 as a divisor in the old rule rests on totally erroneous assumptions. No authorities were offered by him to support his figures, and I suspect that the whole of his calculation was 'cooked' to give the desired result. For convenience, I will treat the details in the order given by Mr Munro.

(1) The date of 1678 means little. The shipwrights of the river were using a divisor of 94 at least as early as 1626 (S.P. 16/55; 39), and there is no evidence to show that at that date it was possible to make accurate assessments of cubic capacity or displacement.

(2) In the old rule, 'L' represented the length by the keel, and was not a principal dimension for the purpose of obtaining a block coefficient, for which the length and breadth on the waterline, and draught of water, are required. If, however, Parsons was actually working on a block figure produced by $Keel \times B \times D$, his coefficient of 0.62 would be equivalent to one of 0.5 if applied to the normal block figure obtained from the waterline length. This is an almost impossible figure for the 'vessels with rather full forms for burthen' upon which he based his calculations.

Further proof is afforded by the earliest dated figures readily available, those of Keltridge in 1684, printed in Charnock's *Marine Architecture*, Vol. II, p. 485. In these, the block coefficients (based on length on gun deck, and draught to bottom of keel) range from 0.36 to 0.5. Allowing for a normal rake of stem and sternposts, the coefficients would range from 0.44 to 0.63 if based on the length of keel, and be even higher if the draft is taken to the upper edge of the keel, as would be preferable for such comparisons. Although at this point Parsons's coefficient of 0.62 appears to agree with those obtained from Keltridge, it must be remembered that the latter's designs are of very fine-lined vessels, which are most unlikely to have had a similar coefficient of fineness to that of the average ship of 50 years earlier upon which the $(K \times B \times D)/94$ formula was first based.

(3) Again quoting from Keltridge's examples, the weight of hull and spars alone was about 0.52 of the total displacement. If this proportion is to be 0.4 as stated by Parsons, the ships' bodies would have to be filled out to give a block coefficient ranging from 0.57 to 0.82 (ignoring other necessary stores and any consequent increase in weight of hull).

Any error in Keltridge's figures may be ignored, as the old rule was presumed by Parsons to have been framed by shipwrights contemporary with Keltridge and having similar facilities and knowledge.

(4) The final, and conclusive, argument against Parsons is this. The original formula of $(K \times B \times D)/94$ produced a figure in tons burthen, or capacity in measurement tons. An additional one-third was added to give tons and tonnage, or capacity in dead-weight tons. All Parsons's figures are based on displacement, or dead-weight capacity. By 1831 the addition for tons and tonnage had long been forgotten, and in this connexion it is amusing to note that Parsons's own example of a collier brig of 170 tons register actually carried 240 tons weight of cargo. If he had resurrected the old rule *in toto* the ship would have measured (roughly speaking) 170 tons burthen (register) and 227 tons and tonnage (deadweight). Mr Munro is quite correct in hinting that the old rules had been the butt of very much (misinformed) criticism. Except for the substitution of the half beam for depth, the old rule served a very useful purpose for a very long time.

After this destructive criticism it is difficult to offer a satisfactory and 'scientific' explanation of the origin of 94 as a divisor. I am certain that there was nothing magical or mysterious in the choice of this number, and that it had no inherent virtue or value in itself. It was used originally because it produced a figure for tons burthen agreeing with that found by experiment, and it was later adopted for statutory purposes purely because of its traditional employment on the Thames, the most important shipping centre. Minor differences in the points of measurement of the three main dimensions would naturally have made it necessary to vary the divisor slightly. Thus we find that Matthew Baker in 1582 would have used a divisor of 97 (if he had thought of using one at all), whilst as late as 1800 the shipwrights in north-west England—isolated from other centres and probably following an old local custom—used a divisor of 95.

The history of tonnage measurement is admittedly complicated, but it is a story of attempts by practical men to find a workable answer to a practical problem. It is almost certainly a mistake to attempt to use highly sophisticated arguments to explain their methods.

W. SALISBURY

10. (1958.) THE SETTING OF GAFF TOPSAILS IN SCHOONERS. I do not recall having heard persons responsible for the adoption of the method of setting gaff topsails, mentioned by Mr Greenhill in the Aug. 1958 *M.M.*, discuss their reasons, and I can make no pretence to authority, but I suspect that the object in setting them to leeward of the peak halyards was simply to avoid the chafe that would have resulted from the sail being pressed against the halyards, and that the tack was lead to windward of the gaff in order to hold the sail up to windward. There was nothing 'lazy' about the method in the sense that efficiency was lessened in order to avoid work.

D. L. DENNIS

2. (1955.) MUTINIES.

(1) *Werk des Untersuchungsausschusses der deutschen verfassungsgebenden Nationalversammlung und des deutschen Reichstages, 1919–1926. 4. Reihe: Die Ursachen des Zusammenbruchs im Jahre 1918.* Editor A. Philip, 1925–28. Vol. ix, 1–2: *Entschliessungen und Verhandlungsberichte: Marine und Zusammenbruch*; Vol. x, 1: *Gutachten zu den Marinevorgängen 1917 und 1918* (Aboldt, Stumpf, von Trotha); Vol. x, 2: *Tagebuch des Matrosen Richard Stumpf*.

(2) L. Perius, *Warum die Flotte versagte*, Schriftreihe zum deutschen Zusammenbruch, 1918, No. 3.

(3) H. Neu, *Die revolutionäre Bewegung auf der deutschen Flotte 1917–1918*. Stuttgart, 1930.

(4) Icarus, *The Wilhelmshaven Revolt*. London, 1924.

(5) Erich Kuttner, *Von Kiel bis Berlin*. Der Siegeszug der deutschen Revolution. Berlin, 1918.

(6) G. Noske, *Von Kiel bis Kapp. Zur Geschichte der deutschen Revolution*. 1920.

(7) H. Kutscher, *Admiralsrebellion oder Matrosenrevolte. Der Flotteneinsatz in den letzten Tagen des Weltkrieges*. Stuttgart, 1933.

(8) R. Stumpf, *Warum die Flotte zerbrach. Kriegstagebuch eines christlichen Arbeiters*. Berlin, 1927.

Compilation of sources:

(9): R. H. Lutz, *The German Revolution*. Stanford, 1922.

For further references I would recommend: *Handbuch der deutschen Geschichte*. Newly edited by Leo Just. Vol. iv, part 2: Walther Hubatsch, *Der Weltkrieg 1914/1918*. Vol. iv, part 3: Albert Schwarz, *Die Weimarer Republik*.

The order of the nomination is rather arbitrary. It will be noted that R. Stumpf is quoted as sole or co-writer three times.

There are short references to the mutinies in several memoirs of German admirals: Admiral Scheer, *Deutschlands Hochseeflotte im Weltkrieg* (Berlin, 1920); Erich Raeder, *Mein Leben, Bis zum Flottenabkommen mit England 1935* (Franz Schlichtenmayer, Tübingen, 1955?).

Then there exists another book of doubtful value: Ludwig Freiwald, *Die verratene Flotte. Aus den letzten Tage der deutschen Kriegsmarine* (J. F. Lehmanns Verlag, München). This book was published between the two world wars.

WERNER MOLCH

37. (1955.) WHITE STOCKING DAY. I venture two explanations for this expression: it is possible that a day associated with the receipt of money and with emancipation from toil, might be marked among sailors by the wearing of some article of dress which would be out of place when they are at work; hence White Stocking Day. The other is based on the custom of a century or more ago of waterfront ladies wearing white stockings. It is likely that the old time sailor connected 'Pay Day' with the stocking where his money would be placed for safe keeping—a custom not altogether obsolete to-day.

EDGAR K. THOMPSON

REVIEWS

THE ART OF NAVIGATION IN ENGLAND IN ELIZABETHAN AND EARLY STUART TIMES. By DAVID W. WATERS, Lieut.-Commander R.N. Hollis and Carter. 10×6 inches. Price 84s. net.

This handsome and magnificently illustrated volume on the Art of Navigation in England before 1640 contains nearly 700 pages, and must undoubtedly become the standard work on the subject—one of growing interest to the general reader as well as to sailors and sea-lovers. It lays before us, with careful analysis and shrewd professional comment, each one of the sea-manuals, sea-tutors, sea-calendars and other like components of the Elizabethan or Jacobean sailor's working library. All this has involved several years of patient, enquiry and research, which was made possible by the generosity of Mr Henry C. Taylor of New York, who had assembled a remarkable collection of early Americana and related books, including many rareties. He suggested that an Essay on the navigational works that he possessed might cast interesting light on the first English colonizing successes, and it is a tribute to his phlegm that he had watched, without misgiving or withdrawal, this Essay burgeon into the great volume before us. He has proved, indeed, a patron on the grand scale to whom we must be grateful.

An impressive Foreword has been contributed to the book by Earl Mountbatten of Burma, who considers it 'a true *magnum opus*'. As he reminds us, the setting of a sail was the earliest example of the use of a natural force to supplement muscular effort, while navigation was the first practical activity to depend upon astronomical observation and mathematical calculation. Not until Elizabethan days, however, did our our countrymen turn from the ideal of a 'good coaster' to that of a 'good navigator', and it is with this transition that Lieut.-Commander Waters deals. The appearance of the book at this day is peculiarly apt, as the First Sea Lord tells us, since we are once more entering a new phase—that of deep-sea navigation: 'In addition to looking upward to take celestial observations, and horizontally for bearings of objects on shore, we shall in future be directing our attention downwards as well. The navies of the world will be sending their nuclear-powered submarines on missions that will preclude their surfacing to take sights or obtain radio-fixes... the same navigational problems will face the merchant navies also...'

The fact that the author is a naval officer, one engaged also in the historical department of the Admiralty, lends us confidence in the thoroughness of his work and the aptness of his comment. The book is divided into two parts, the first dealing with the development of navigation in the Iberian Peninsula during the fifteenth and sixteenth centuries, and the initiation of the English into the Art; the second with the English contributions to navigational technique during a period of some eighty years (to 1640), contributions which were very remarkable indeed. The two parts are connected by an enthralling chapter entitled 'The Spur to Mastery' in which Lieut.-Commander Waters recalls the onset of hostile relations with Spain.

The text by no means makes up the whole of the book. There are some forty Appendices containing original documents and extracts, besides a full and most informative Index (made by Mr René Hague) which fills 70 pages. There is also an Index of Navigational MSS. and Works printed before 1640 with nearly 200 entries. Here only short titles are given, the long titles of

the printed works appearing as footnotes to the pages on which they are discussed. We are given, besides, an annotated Bibliography of the works which the author has consulted, and of the whereabouts of narratives and charts.

There is, indeed, only one fault to be found with the book as a whole, and for this perhaps the publishers are responsible rather than the author. It concerns the illustrations. In themselves these are excellently reproduced, and most attractive, but they carry only short titles, and have no page reference to the relevant text, from which they are usually widely separated. True that there is a very well annotated list of Plates at the beginning of the book, but the reader is obliged to turn back to this, pick out a catchword, and then hunt in the Index for the appropriate page reference. What will the reader make, for example, of Plate XXIX, a page of manuscript simply entitled 'The Haven of Death 1553'? Or of the enchanting picture called 'The Ptolemaic System', in which the standard diagram of the earth-centred orbs is inserted into a great Armillary Sphere, supported on the shoulders of a kingly Atlas? And so it is throughout, with a few exceptions where (apparently by chance) an explanatory note has been reproduced on the Plate.

Apart from this vexing matter there is little room for adverse criticism. The printing is excellent and slips are hard to find. One of these concerns John Skay, an incompetent teacher of navigation by Thames-side who is Lieut.-Commander Waters' own discovery, but turns up in the Index as 'Thomas' Skay. John Dee, too, did not call Harriot *amici mei*, but used the genitive in recording his friend's gift of a book. These, however, are trifles.

It is impossible to outline the whole text, but the theme is set in the Introduction which rather strangely precedes the Acknowledgments. Here the author presents an excerpt from the *Accidence for young Seemen*, written by Captain John Smith, sometime Governor of Virginia. The young sailor is advised 'Get some of these books', and a list of eleven titles follows. But (adds the Captain) 'practice is the best', and completes his list with half a dozen essential instruments. It is with such books and such instruments that we are to have to do.

The first chapter deals with the age-old Art of Pilotage, in which the Elizabethan sailor already excelled. His equipment was rutter, compass, lead and line, besides an almanac with which to 'shift his tides'. In the second chapter we turn to ocean navigation as then understood, taught and practised by the Portuguese and Spaniards. Here a word of commendation is due to the author's excellent diagrams which will help the non-mathematical reader. Full use should be made besides of the running titles of successive pages, for many of the chapters are perhaps unduly long, and it is not difficult to lose the thread of the argument. Chapters 3-5, dealing with the English awakening and initiation, make spirited reading and Part II, which examines their specific contributions to the Art of Navigation opens, of course, with William Browne and the log-line.

The reviewer cannot agree with Lieut.-Commander Waters that the 'Dutchman's log' was the invention of Edmund Gunter (1624). It had been refined into mathematical terms by his day, but the principle was explained to Nicholas of Cusa in the early fifteenth century, and in crude form the method goes back to antiquity. Nor can it be accepted that observations of sun and star made aboard ship could not fall within 4° or 5° of accuracy—which would make them worthless. It was a landsman who asserted this in 1500, an astronomer suffering from a festering wound in the leg, and using most probably an astronomical and not a nautical astrolabe. He was, moreover, trying to chart the constellations of the Southern Hemisphere, and devise a rule for the use of the Southern Cross for latitude. A John Davis back-staff was even marked with a diagonal scale, for the seaman was expected to distinguish fractions of a degree when 'running down the latitude'. But there will always be such differences of opinion. Lieut.-Commander Waters, for example, always writes of the 'plain chart' as the 'plane chart', although he takes the adjective in its ordinary meaning when describing the seaman's 'plain scale', which was very popular as relieving him from dreaded arithmetic.

Special praise is again due to the author's lucid explanations and clear diagrams as he takes the reader through the elementary mathematics necessary for understanding the successive chapters on Arithmetical Navigation and Logarithmical Navigation. The diagram illustrating Richard Norwood's method of great circle sailing is particularly striking, and can leave no one in doubt

as to the differences between sailing along a line of latitude, a rhumb line or a great circle. The closing date of the book, 1640, just allows of the inclusion of Norwood's two principal works, and incidentally also of the entertaining story of John Skay, known only by unique copies of his works preserved unexpectedly at Lambeth Palace. A model Journal drawn up by Norwood fills the last two pages of text, and its comparison with the specimens provided of the Journals of John Davis and Sir Hugh Willoughby, respectively, emphasizes the advances made during the period under review. The next striking contributions to navigational technique—and they too were English—were to be the sextant and the chronometer of the eighteenth century which solved the outstanding longitude problem.

True to naval tradition, Lieut.-Commander Waters designates Sebastian Cabot as the 'Father of English Navigation', and his portrait is the Frontispiece of this book. But when he worked in the Tower on preparations for the first search for a North-East Passage, the Spanish Pilot Major was a feeble old man. Had Cardinal Wolsey had his way, he would have been employed thirty years earlier, when in his full vigour. In 1521 the King and the Cardinal proposed to send a fleet of ships to the 'new found land', i.e. America, and asked the City Companies for support. The answer of the Mercers and Drapers Companies has survived. It runs as follows: 'We think it were too sore adventure to jeopard five ships with men and goods unto the said Island upon the singular trust of one man, called as we understand Sebastian... And also we say that if the said Sebastian had been there and were as cunning a man in and for those parts as any man might be, having none other assistance of masters and mariners of England exercised and laboured in the same parts for to guide their ships, and other charges than we know of, but only trusting to the said Sebastian we suppose it were no wisdom to adventure lives and goods thither in such manner... for the said Sebastian cannot be but in one ship, then the other four ships and men stand in great peril, for lack of cunning mariners in knowledge of those parts, and to order and guide them....'

It was a generation and more before this climate of opinion towards ocean voyaging changed. Then the exciting story began, which Lieut.-Commander Waters here tells so splendidly, of how the English caught up with, and then outpaced their foreign rivals. Leading the whole world in the science of precise navigation they thus fitted their country to become Mistress of the Seas, as John Dee had foretold she should.

E. G. R. TAYLOR

NELSON'S LETTERS TO HIS WIFE AND OTHER DOCUMENTS, 1785-1831.
Edited by GEORGE P. B. NAISH. Routledge and the Navy Records Society.
6 × 9 $\frac{1}{4}$ inches. 630 pages; plates, facsimiles, maps. Price 42s. net.

NELSON AND BRONTE: AN ILLUSTRATED GUIDE TO HIS LIFE AND TIMES.
By GEORGE P. B. NAISH. H.M.S.O. for the National Maritime Museum.
6 $\frac{3}{4}$ × 9 inches. 29 pages. Price 3s. 6d. net.

In celebration of the bicentenary of Nelson's birth, the Navy Records Society has sponsored its 100th volume. This is the most important book about Nelson, at any rate in a documentary sense, of the present century. Realizing its general as well as its specialist interest, the Society has arranged for an issue of the book to be available to the public at large.

The great bulk of the book consists of Nelson's letters to his wife. These belong to the Nelson Museum at Monmouth, and they have never before been printed in their entirety. Added to them are a number of letters from Frances Nelson to her husband, which are in the British Museum. It is touching to learn that Frances's wedding ring is bound into the cover of the first of the volumes containing the originals at Monmouth. Related documents carry the story forward to Lady Nelson's death, and the whole narrative is given shape by a series of linking notes, contributed by Mr George Naish who is responsible, editorially, for the whole.

In a way, the book is an ironic tribute: for so much did Emma Hamilton steal the limelight in the later years of Nelson's career that many people, familiar with the outline of Nelson's public career, may scarcely have realized that there ever *was* a Lady Nelson. In fact, she long survived both her illustrious husband and her successful rival in his affections. Emma Hamilton died at Calais, debt-ridden, in 1815; Frances Nelson died in 1831, generally esteemed. Mr Naish's collection proves that, while it had a chance of being so, the marriage was by no means unsuccessful, at least from the year 1787, when the pair were united in the West Indies, to the year 1799, when Nelson finally became enmeshed in Neapolitan politics, and when he had come fully within the orbit of the wife of the British Minister to the Neapolitan Court, Sir William Hamilton.

When Nelson first met her, Frances Nelson was a rather timid widow, niece of the President of the British West Indian island of Nevis. She had a young child, Josiah Nisbet, who lived to save Nelson's life after he had been gravely wounded at Teneriffe, and to become, through gross favouritism, a post-captain, though not a good one. Frances Nisbet remained timid for the rest of her life. But timid people are not necessarily unsatisfactory wives to brave men, and there is evidence in this book that not only was Frances Nelson entirely devoted to her husband, but that Nelson himself cared much for her until Emma Hamilton's fascination, and, it must be added, her consistently ruthless machinations, broke the marriage up.

Lady Nelson's gifts were not spectacular, but she was a good gossip, in days when relevant, kindly gossip could be meat and drink to the sailor in foreign service, deprived for months on end of consecutive news of friends and family, and she was liked by Nelson's older friends, some of whom—such as Hardy, his flag-captain, and Lord Hood, an early patron—remained her partisans for life, deploring the separation.

On his own admission, 'Fanny', as he called her, never caused Nelson a moment's uneasiness, except over her aggravating health and her almost neurotic anxiety, which he seems to have been able to assuage. Her most serious failure was that she bore him no children, a fact which he felt bitterly. On the other hand, she steeled herself to attend to the very grim wound which remained after he had lost his right arm, she nursed him back to health in 1797, and she was a satisfying companion at another equally trying period of his life, the five years which he spent in Norfolk on half pay, before the outbreak of war in 1793.

When in 1844-46, Sir Harris Nicolas came to compile his seven-volume edition of Nelson's *Dispatches and Letters*, he knew of this series of connubial letters only in partial and sometimes misleading transcripts, which had been included in the official *Life*, published in 1809 by James Clarke and John McArthur. The full harvest is now at last made available in a book which is at once essential to the Nelson student, and a component in the full portrait.

Mr Naish has also put together a picture-book of Nelson's life, mainly from material at Greenwich. Many of the same illustrations are used in this as appear in the larger volume, and the booklet is intended for a much less knowledgeable audience.

OLIVER WARNER

The following other publications of the Society are at present available for sale:

OCCASIONAL PUBLICATIONS: No. 5, *Lists of Men-of-War, 1650-1700. Part I. English Ships*. Compiled by R. C. Anderson. *Part II. French Ships*. Compiled by Pierre Le Conte. *Part III. Swedish Ships*. Compiled by Hj. Börjeson. *Danish-Norwegian Ships*. Compiled by P. Holck. *German Ships*. Compiled by W. Vogel and H. Szymanski. *Part IV. Ships of the United Netherlands*. Compiled by A. Vreugdenhil. *Part V. Indexes*. EACH PART 3s. 6d. (POSTAGE 5d.). No. 6. A Treatise on Shipbuilding and a Treatise on Rigging written about 1620-1625. Edited by W. Salisbury and R. C. Anderson. 15s., to members 12s. 6d., POSTAGE 4d.

THE MARINER'S MIRROR. INDEX TO VOLS. 1-35. Compiled by R. C. Anderson. Price 15s. (Members' rate 10s. 6d., POSTAGE 10d.).

REPRINTS: *The Rye River Barges*, by Leopold A. Vilder.

East Cornish Luggers, by H. O. Hill.

The Fishing Luggers of Hastings, Parts I and II (separately), by James Hornell.

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MARITIME MISCELLANY SERIES, No. 1, *The Van de Veldes*, by W. Voorbeytel Cannenburg. No. 2, *Piracy*, by Phillip Gosse. Price 2s. No. 3, *The Anchor*, by J. W. van Nouhuys. No. 4, *Old Maritime Prints*, by A. G. H. Macpherson. No. 5, *The Timber Problem of the Royal Navy, 1652-1862*, by Robert G. Albion. Price 2s. No. 6, *The Fighting Ship from 1860 to 1890*, by Admiral G. A. Ballard. No. 7, *The King's Flags*, by Cecil King. No. 8, *The History of Maritime Law*, by William Senior. Price 2s. No. 9, *The Development of Signalling in the Royal Navy*, by Captain L. E. Holland, R.N. No. 10, *The Ship of the Renaissance*, by R. Morton Nance. Price 5s. No. 11, *Rig in Northern Europe*, by Sir Alan Moore, Bt. Price 5s. No. 12, *Merchantmen under Sail 1885-1932*, by the late Basil Lubbock. Price 5s. (Each, price 2s. 6d. except where otherwise stated.)

PLANS: Model-maker's Plans of the *Victory*, 10 plans on 3 sheets from those used in the restoration of 1923-35. (Price 21s.)

Enquiries for any of these should be addressed to The Hon. Secretary, Society for Nautical Research, National Maritime Museum, Greenwich, S.E. 10.

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